

Set	Items	Description
S1	28	AU=(JULIEN G? OR JULIEN, G? OR JULIEN G OR JULIEN, G OR JULIEN G. OR JULIEN, G. OR JULIEN GJ OR JULIEN, GJ OR JULIEN G.-J. OR JULIEN, G.J. OR JULIEN GERALD OR JULIEN, GERALD)
S2	37557	BALL() BEARING? OR SHAPE() MEMORY OR NITINOL
S3	0	CO=NITINOL
S4	189292	IC=(B23P? OR B21D? OR B21K?)
S5	21	S1 AND S2
S6	4	S5 AND S4
S7	21	S5:S6

? show files

File 347:JAPIO Oct 1976-2003/Aug(Updated 031202)

(c) 2003 JPO & JAPIO

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200401

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7/3,K/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

015601762 \*\*Image available\*\*  
WPI Acc No: 2003-663917/200362  
XRPX Acc No: N03-529913

Ice skate blade for ice sliding equipments e.g. sleds, has edge portion made from type 60 Nitinol , main blade portion with higher impact strength and hardness properties for engaging blade holder

Patent Assignee: NITINOL TECHNOLOGIES INC (NITI-N)

Inventor: JULIEN G J

Number of Countries: 102 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200372206	A2	20030904	WO 2003US5518	A	20030220	200362 B

Priority Applications (No Type Date): US 2002358988 P 20020221

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 200372206	A2	E	21	A63C-000/00	
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Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT SD SE SI SK SL SZ TR TZ UG ZM ZW

... blade for ice sliding equipments e.g. sleds, has edge portion made from type 60 Nitinol , main blade portion with higher impact strength and hardness properties for engaging blade holder

Inventor: JULIEN G J

Abstract (Basic):

... has a body with a main blade and an edge portion made from type 60 Nitinol . The edge portion has an ice-containing bottom edge having opposed corners sharpened to bite...  
... is also included for a method of sharpening a running edge of a type 60 Nitinol ice skate blade...

...The diagram shows an exploded elevation of a hockey ice skate having a Nitinol skate blade...

7/3,K/2 (Item 2 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

015504626 \*\*Image available\*\*  
WPI Acc No: 2003-566773/200353  
XRAM Acc No: C03-152868  
XRPX Acc No: N03-450565

Projectile for being propelled through rifled bore of gun barrel through gas pressure in bore, comprises cylindrical body of shape memory alloy having martensitic state

Patent Assignee: BONDY R H (BOND-I); JULIEN G J (JULI-I)

Inventor: BONDY R H; JULIEN G J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6581522	B1	20030624	US 9318841	A	19930218	200353 B

Priority Applications (No Type Date): US 9318841 A 19930218

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6581522	B1	24	F42B-005/18	

... through rifled bore of gun barrel through gas pressure in bore,  
comprises cylindrical body of shape memory alloy having martensitic  
state

...Inventor: JULIEN G J

Abstract (Basic):

... A projectile comprises a cylindrical body of shape memory  
alloy having a martensitic state. The body exists in an unrestrained  
condition in the martensitic...

... The projectile comprises a cylindrical body of shape memory  
alloy having a martensitic state. The body exists in an unrestrained  
condition in the martensitic...

...less than 20 KSI, and a cold-worked yield strength greater than 200 KSI.  
The shape memory alloy in the projectile has an initial yield  
strength that is soft enough to facilitate...

...a high velocity, high accuracy projectile towards a target comprising  
inserting a projectile made of shape memory alloy material into the  
breach of a rifled bore of a gun barrel, generating a...

...for firing from the bore of gun barrel toward a target comprising an  
axially elongated nitinol shell with an external diameter equal to  
the diameter of the gun barrel bore and...

Technology Focus:

... Preferred Property: The shape memory alloy has an initial  
yield strength less than 15 KSI and a maximum cold-worked...

...encountered in receive of gun to maintain a high ballistic coefficient  
despite rough handling. The shape memory alloy is nitinol in  
solid form, type 55 nitinol, or type 60 nitinol. The high cup  
pressures are sealed in the bore behind the projectile by high  
interfacial...

7/3,K/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

015237639 \*\*Image available\*\*

WPI Acc No: 2003-298565/200329

XRPX Acc No: N03-237424

Nitinol impact absorbers for protecting humans, animals, equipment and  
cargo, has impact absorbing section disposed to bend in flexural mode  
with high specific damping capacity of up to about 40 percent

Patent Assignee: NITINOL TECHNOLOGIES INC (NITI-N)

Inventor: JULIEN G J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6530564	B1	20030311	US 9749370	P	19970612	200329 B

US 9749581 P 19970613  
US 9896542 A 19980612

Priority Applications (No Type Date): US 9896542 A 19980612; US 9749370 P 19970612; US 9749581 P 19970613

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6530564	B1	23	F16F-001/36	Provisional application US 9749370	Provisional application US 9749581

**Nitinol impact absorbers for protecting humans, animals, equipment and cargo, has impact absorbing section disposed to...**

Inventor: JULIEN G J

Abstract (Basic):

... The impact absorber (75) has a metallic structure having a **Nitinol** portion with a grounded section and an impact absorbing section. The impact absorbing section is...

... a) the absorption of impact using the **Nitinol** impact absorber; and the **Nitinol** impact absorber manufacture...

...The figure shows the impact- absorbing sphere of the **Nitinol** impact absorber in mass production version...

7/3,K/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

015195083 \*\*Image available\*\*

WPI Acc No: 2003-255619/200325

XRAM Acc No: C03-066165

XRPX Acc No: N03-202775

**Manufacture of Nitinol washer for use with fasteners comprises selecting sheet or plate of monolithic hot-worked Nitinol , and cutting annular body with central opening from the sheet**

Patent Assignee: JULIEN G J (JULI-I)

Inventor: JULIEN G J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020187020	A1	20021212	US 2001297492	P	20010611	200325 B
			US 2002167799	A	20020611	

Priority Applications (No Type Date): US 2001297492 P 20010611; US 2002167799 A 20020611

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020187020	A1	14	F16B-043/02	Provisional application US 2001297492	

**Manufacture of Nitinol washer for use with fasteners comprises selecting sheet or plate of monolithic hot-worked Nitinol , and cutting annular body with central opening from the sheet**

Inventor: JULIEN G J

Abstract (Basic):

... **Nitinol** washer is made by selecting a sheet or plate of monolithic hot-worked **Nitinol** , and cutting an annular body with a central opening from the sheet.

... or a swaged collar, for maintaining a tensile preload on the shank; and an annular **Nitinol** washer (50) between a protected item and an impacting force which will deform the **Nitinol** structure, where

the **Nitinol** structure absorbs portions of the energy in the impacting force by deforming the **Nitinol** washer; and...

...article comprising an annular disc having a central opening and which is made of monolithic **Nitinol** .

...

...The method is used for the manufacture of **Nitinol** washer for use with fasteners. The washer can be used for sealing around the fastener  
Technology Focus:

... Preferred Materials: The **Nitinol** sheet is Type 55 **Nitinol** having a transition temperature above 100degreesC so that it remains in its Martensitic state for all normal conditions of use. The **Nitinol** structure is a corrugated washer. It includes two layers of different types of **Nitinol** bonded together, including martensitic Type 55 **Nitinol** , and superelastic Type 55 **Nitinol** or ultraelastic Type 60 **Nitinol** .

7/3,K/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014869315 \*\*Image available\*\*

WPI Acc No: 2002-690021/200274

XRPX Acc No: N02-544258

**Nitinol** horseshoe for horse hooves comprises semi-annular body made of monolithic type fifty-five **nitinol** in martensitic state, having high specific damping capacity of about twenty to forty percent

Patent Assignee: NITINOL TECHNOLOGIES INC (NITI-N)

Inventor: JULIEN G J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6454016	B1	20020924	US 99152517	A	19990902	200274 B
			US 2000654236	A	20000902	

Priority Applications (No Type Date): US 99152517 P 19990902; US 2000654236 A 20000902

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6454016	B1	6	A01L-001/00	Provisional application US 99152517

**Nitinol** horseshoe for horse hooves comprises semi-annular body made of monolithic type fifty-five **nitinol** in martensitic state, having high specific damping capacity of about twenty to forty percent

Inventor: JULIEN G J

Abstract (Basic):

... The horseshoe comprises a semi-annular body (35) made of monolithic type 55 **nitinol** in the martensitic state, having a high specific damping capacity of about 20-40% to...

... INDEPENDENT CLAIMS are included for a process for making **nitinol** horseshoes, and a process for protecting the hooves and legs of a horse, respectively...

International Patent Class (Additional): B21K-015/02

7/3,K/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX  
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014852207    \*\*Image available\*\*  
WPI Acc No: 2002-672913/200272  
XRPX Acc No: N02-531927

**Manufacturing process for Nitinol parts and forms, involves gradually cooling hot-worked workpiece to ambient temperature over period of 8-12 hours after being subjected to heat treatment**

Patent Assignee: NITINOL TECHNOLOGIES INC (NITI-N)

Inventor: **JULIEN G J**

Number of Countries: 001    Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6422010	B1	20020723	US 2000210902	A	20000611	200272 B
			US 2001265562	A	20010131	
			US 2001879371	A	20010611	

Priority Applications (No Type Date): US 2001879371 A 20010611; US 2000210902 P 20000611; US 2001265562 P 20010131

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6422010	B1	15	F01B-029/10		Provisional application US 2000210902
					Provisional application US 2001265562

**Manufacturing process for Nitinol parts and forms, involves gradually cooling hot-worked workpiece to ambient temperature over period of...**

Inventor: **JULIEN G J**

Abstract (Basic):

...        For manufacturing **Nitinol** parts and forms...

...Obtains desired hardness, toughness, elasticity and **shape memory** effect...

...The figure shows the temperature graph of **Nitinol** when heated...

7/3,K/7        (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

014834158    \*\*Image available\*\*  
WPI Acc No: 2002-654864/200270  
XRPX Acc No: N02-517397

**Threaded load transferring device has elongated blank heated and deformed to shorten its length, to exert tensile force on attached portions, and to produce desired motion**

Patent Assignee: NITINOL TECHNOLOGIES INC (NITI-N)

Inventor: **JULIEN G J**

Number of Countries: 001    Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6425829	B1	20020730	US 94349872	A	19941206	200270 B

Priority Applications (No Type Date): US 94349872 A 19941206

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6425829	B1	25	B21K-001/56		

Inventor: **JULIEN G J**

Abstract (Basic):

... The device has an elongated blank (30) made of **Nitinol** and threaded for attachment to another material. The integral intermediate section of the blank can...

... Ensures improved attachment of **shape memory** effect alloy material e.g. **Nitinol** to another material for load transfer, improved formation of threads on **Nitinol** material, and improved connection between fixed and movable portions. Provides an improved, self-locking, self...

International Patent Class (Main): **B21K-001/56**

**7/3,K/8 (Item 8 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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014667798 \*\*Image available\*\*

WPI Acc No: 2002-488502/200252

XRPX Acc No: N02-386075

**Electrical resistant heater element for heating a material or substrate comprises a Nitinol ribbon**

Patent Assignee: NITINOL TECHNOLOGIES INC (NITI-N)

Inventor: **JULIEN G J**

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6410886	B1	20020625	US 9752206	A	19970710	200252 B
			US 98113575	A	19980710	

Priority Applications (No Type Date): US 9752206 P 19970710; US 98113575 A 19980710

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6410886	B1	12	H05B-003/00	Provisional application	US 9752206

**Electrical resistant heater element for heating a material or substrate comprises a Nitinol ribbon**

Inventor: **JULIEN G J**

Abstract (Basic):

... The heater element comprises a **Nitinol** ribbon (41) having electrical contacts at opposite ends of the element for connection to an electrical circuit producing a flow of current to the **Nitinol** ribbon for heating of the material or substrate. The heater also has an integral electrically...

... a elevational view of a flat strip heater and a elevational view of a tubular **Nitinol** heater elements...

**7/3,K/9 (Item 9 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

013979906 \*\*Image available\*\*

WPI Acc No: 2001-464120/200150

XRPX Acc No: N01-344151

**Nitinol ski structure for recreational snow skiing has nitinol vibration absorbing component integrated with and coupled to ski in state flexing and vibration of ski causes straining of nitinol pad**

Patent Assignee: NITINOL TECHNOLOGIES INC (NITI-N)

Inventor: JULIEN G J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6267402	B1	20010731	US 99127167	A	19990330	200150 B
			US 2000539642	A	20000330	

Priority Applications (No Type Date): US 99127167 P 19990330; US 2000539642 A 20000330

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6267402	B1	10	A63C-005/07		Provisional application US 99127167

Nitinol ski structure for recreational snow skiing has nitinol vibration absorbing component integrated with and coupled to ski in state flexing and vibration of ski causes straining of nitinol pad

Inventor: JULIEN G J

Abstract (Basic):

... A nitinol vibration absorbing component is integrated with and coupled to a ski (150) in a state the flexing and vibration of the ski causes straining of a nitinol pad (180) which absorbs portion of vibration energy in the ski during skiing to damp...

... The figure shows the plan view of the ski with an embedded nitinol torsional vibration absorber structure...

... Nitinol pad (180)

7/3,K/10 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

013966081 \*\*Image available\*\*

WPI Acc No: 2001-450295/200148

XRAM Acc No: C01-135913

XRPX Acc No: N01-333278

Production of surface material layer having nitinol coating for metal components, e.g. bolts, involves heating surface coating of nitinol to specified temperature and rapid cooling

Patent Assignee: NITINOL TECHNOLOGIES INC (NITI-N)

Inventor: JULIEN G J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6254458	B1	20010703	US 98105960	A	19981028	200148 B
			US 99429685	A	19991028	

Priority Applications (No Type Date): US 98105960 P 19981028; US 99429685 A 19991028

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6254458	B1	6	B24B-001/00		Provisional application US 98105960

Production of surface material layer having nitinol coating for metal components, e.g. bolts, involves heating surface coating of nitinol to specified temperature and rapid cooling

Inventor: JULIEN G J

Abstract (Basic):

... A surface material layer having nitinol (nickel-titanium



alloy) coating is thermally produced by heating the surface coating of **nitinol** to 400-900degreesC, and rapidly cooling by forced air flow or by low temperature air...

... INDEPENDENT CLAIM is also included for an apparatus for producing layer of surface material having **nitinol** coating comprising enclosure (16), polishing and cleaning station (21), heat treating station (30), and transfer...

...The inclusion of **nitinol** in the coating provides superior environmental protection and desirable physical characteristics, e.g. resistant to...

7/3,K/11 (Item 11 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

013734090 \*\*Image available\*\*  
WPI Acc No: 2001-218320/200122  
XRPX Acc No: N01-155640

**Nitinol ball bearing element for manufacturing ball bearings comprises ball tree mold used to cast the wax ball tree forms having central trunk, branches and holding multiple balls using investment casting**

Patent Assignee: NITINOL TECHNOLOGIES INC (NITI-N)

Inventor: **JULIEN G J**

Number of Countries: 095 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200112359	A1	20010222	WO 2000US22742	A	20000818	200122 B
AU 200067868	A	20010313	AU 200067868	A	20000818	200134
EP 1224045	A1	20020724	EP 2000955714	A	20000818	200256
			WO 2000US22742	A	20000818	

Priority Applications (No Type Date): US 2000207010 P 20000525; US 99149947 P 19990819; US 99167840 P 19991129

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200112359 A1 E 37 B21K-001/05

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200067868 A B21K-001/05 Based on patent WO 200112359

EP 1224045 A1 E B21K-001/05 Based on patent WO 200112359

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

**Nitinol ball bearing element for manufacturing ball bearings comprises ball tree mold used to cast the wax ball tree forms having central trunk...**

Inventor: **JULIEN G J**

Abstract (Basic):

... For use as a **nitinol ball bearing element** to manufacture **ball bearings** and rolling elements...

International Patent Class (Main): **B21K-001/05**

7/3,K/12 (Item 12 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013250319 \*\*Image available\*\*  
WPI Acc No: 2000-422202/200036  
XRPX Acc No: N00-315037

High security padlock with improved antitheft function, has U-shaped shackle which is monolithically molded by shaped memory alloy, e.g. Nitinol , for improving yield strength resistant to cutting or breaking  
Patent Assignee: NITINOL TECHNOLOGIES INC (NITI-N)  
Inventor: JULIEN G J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6073469	A	20000613	US 9369544	A	19930601	200036 B
			US 95482972	A	19950607	

Priority Applications (No Type Date): US 9369544 A 19930601; US 95482972 A 19950607

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6073469	A	14	E05B-067/22		Div ex application US 9369544
					Div ex patent US 5868013

... function, has U-shaped shackle which is monolithically molded by shaped memory alloy, e.g. Nitinol , for improving yield strength resistant to cutting or breaking

Inventor: JULIEN G J

Abstract (Basic):

... A U-shaped shackle (30) is monolithically molded by shaped memory alloy, e.g. Nitinol , to improve yield strength which is resistant to cutting or breaking by common tool. The...

7/3,K/13 (Item 13 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013238715 \*\*Image available\*\*  
WPI Acc No: 2000-410589/200035  
Related WPI Acc No: 2003-310590; 2003-419679  
XRPX Acc No: N00-306835

Shape memory alloy rotary actuator used for rotating an object

Patent Assignee: BOEING CO (BOEI )

Inventor: CLINGMAN D J; JACOT A D; JULIEN G J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6065934	A	20000523	US 9739660	P	19970228	200035 B
			US 9832415	A	19980227	

Priority Applications (No Type Date): US 9739660 P 19970228; US 9832415 A 19980227

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6065934	A	20	B64C-027/00		Provisional application US 9739660

Shape memory alloy rotary actuator used for rotating an object  
...Inventor: JULIEN G J

Abstract (Basic):

... The torque tube, made of a **shape memory** alloy, is formed with a proximal end and a distal end which are respectively connected ...

...The figure shows the perspective view of the **shape memory** alloy rotary actuator...

7/3,K/14 (Item 14 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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013131815 \*\*Image available\*\*  
WPI Acc No: 2000-303686/200026  
XRAM Acc No: C00-092211  
XRPX Acc No: N00-226896

**Making seamless nickel-titanium hollow structure by entraining nickel-titanium intermetallic compound in a plasma stream of ionized gases, directing the partially molten particles toward a mandrel, and removing the mandrel**

Patent Assignee: PROMET TECHNOLOGIES INC (PROM-N)

Inventor: HISLOP G A; **JULIEN G J** ; SICKINGER A

Number of Countries: 087 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200020146	A1	20000413	WO 99US23558	A	19991008	200026 B
AU 9964233	A	20000426	AU 9964233	A	19991008	200036

Priority Applications (No Type Date): US 98103403 P 19981008

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200020146 A1 E 22 B22D-023/00

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 9964233 A B22D-023/00 Based on patent WO 200020146

...Inventor: **JULIEN G J**

Abstract (Basic):

... **nitinol** (99

Extension Abstract:

... of nickel and titanium. One layer is of type 60 nickel titanium naval ordinance laboratory ( **Nitinol** ) plasma sprayed onto the mandrel, and the second layer is of superelastic **Nitinol** (99) composition plasma sprayed and diffusion bonded onto the first layer.

7/3,K/15 (Item 15 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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012346142 \*\*Image available\*\*  
WPI Acc No: 1999-152249/199913  
XRPX Acc No: N99-109687

High security lock - has shackle and latching device made from a shape memory alloy such as Nitinol that is operable by electrically heated key or combination

Patent Assignee: NITINOL TECHNOLOGIES INC (NITI-N)

Inventor: JULIEN G J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5868013	A	19990209	US 9369544	A	19930601	199913 B

Priority Applications (No Type Date): US 9369544 A 19930601

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5868013	A	13	E05B-067/22	

... has shackle and latching device made from a shape memory alloy such as Nitinol that is operable by electrically heated key or combination

Inventor: JULIEN G J

...Abstract (Basic): an actuator (52) connected to one end of the pin. The actuator has a binary Nitinol (56) connected between two ends of a curved steel spring (58). A heater (60) located in close proximity to the Nitinol raises the temperature of the Nitinol to above its transition temperature, which causes it to change to its austenitic state and...

7/3,K/16 (Item 16 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012299130 \*\*Image available\*\*

WPI Acc No: 1999-105236/199909

XRAM Acc No: C99-031281

XRPX Acc No: N99-075971

Gun barrel - comprises elongated tube having breech end and muzzles end, axial bore, and contact surface providing projectile towards target

Patent Assignee: NITINOL TECHNOLOGIES INC (NITI-N)

Inventor: JULIEN G J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5856631	A	19990105	US 956978	A	19951120	199909 B
			US 9610750	A	19960129	
			US 96753182	A	19961120	

Priority Applications (No Type Date): US 96753182 A 19961120; US 956978 P 19951120; US 9610750 P 19960129

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5856631	A	25	F41A-021/04	Provisional application US 956978 Provisional application US 9610750

Inventor: JULIEN G J

...Abstract (Basic): behind the projectile. The contact surface of the bore is made of monolithic Type 60 Nitinol. The transition temp. is -30 deg. C, and consists of 56%Ni and 44%Ti...

7/3,K/17 (Item 17 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

011446946 \*\*Image available\*\*  
WPI Acc No: 1997-424853/199739  
XRPX Acc No: N97-353927

Knife with blade and integral tang made from Type 60 Nitinol (RTM) -  
ground by grinder having surface layer of cubic boron oxide or diamond  
abrasive particles, at defined surface speed and grinding depth per pass  
Patent Assignee: JULIEN G J (JULI-I); NITINOL TECHNOLOGIES INC (NITI-N)  
Inventor: JULIEN G J

Number of Countries: 070 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9729892	A1	19970821	WO 97US2324	A	19970214	199739 B
AU 9719587	A	19970902	AU 9719587	A	19970214	199751
EP 885093	A1	19981223	EP 97907629	A	19970214	199904
			WO 97US2324	A	19970214	
US 6293020	B1	20010925	WO 97US2324	A	19970214	200158
			US 98125218	A	19980813	
US 20020083598	A1	20020704	US 9611648	P	19960214	200247
			US 9629251	P	19961024	
			US 9736784	P	19970128	
			US 98125218	A	19980813	
			US 2001962978	A	20010924	
US 6571665	B2	20030603	US 9611648	P	19960214	200339
			US 9629251	P	19961024	
			US 9736784	P	19970128	
			US 98125218	A	19980813	
			US 2001962978	A	20010924	

Priority Applications (No Type Date): US 9736784 P 19970128; US 9611648 P  
19960214; US 9629251 P 19961024; US 98125218 A 19980813; US 2001962978 A  
20010924

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9729892	A1	E	68	B26B-009/00	
Designated States (National): AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US VZ VN Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG					
AU 9719587	A			B26B-009/00	Based on patent WO 9729892
EP 885093	A1	E		B26B-009/00	Based on patent WO 9729892
Designated States (Regional): AT BE CH DE ES FR GB IT LI NL SE					
US 6293020	B1			B26B-009/00	Based on patent WO 9729892
US 20020083598	A1			B26B-009/00	Provisional application US 9611648
Provisional application US 9629251					
Provisional application US 9736784					
Div ex application US 98125218					
Div ex patent US 6293020					
US 6571665	B2			B21K-011/02	Provisional application US 9611648
Provisional application US 9629251					
Provisional application US 9736784					
Div ex application US 98125218					
Div ex patent US 6293020					

Knife with blade and integral tang made from Type 60 Nitinol (RTM...  
Inventor: JULIEN G J

...Abstract (Basic): integral tang made by cutting a blank from a plate or strip of Type 60 **Nitinol** (RTM), an inter-metallic compound of nickel and titanium, having a thickness of between 0...  
International Patent Class (Main): **B21K-011/02** ...

7/3,K/18 (Item 18 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

009541269

WPI Acc No: 1993-234812/199329

XRAM Acc No: C93-104649

XRPX Acc No: N93-180258

**Reuseable metallic seal using memory metal for use in extremes of temp., pressure etc. - has continuous nitinol memory alloy annulus compressed between 2 seal faces to conform with any minute irregularities**

Patent Assignee: JULIEN G J (JULI-I)

Inventor: CRESON J L; **JULIEN G J** ; ROBINSON S P

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5226683	A	19930713	US 90614715	A	19901116	199329 B

Priority Applications (No Type Date): US 90614715 A 19901116

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5226683	A		F16L-017/06	

... **has continuous nitinol memory alloy annulus compressed between 2 seal faces to conform with any minute irregularities**  
...Inventor: **JULIEN G J**

7/3,K/19 (Item 19 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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008783500 \*\*Image available\*\*

WPI Acc No: 1991-287517/199139

XRPX Acc No: N91-219996

**Sequential structure separation system - has sequence of nitinol wires or foil strips holding structures together but will fuse when electrically heated to separate structures**

Patent Assignee: BOEING CO (BOEI )

Inventor: **JULIEN G J** ; ROBINSON S P

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5046426	A	19910910	US 89429525	A	19891031	199139 B

Priority Applications (No Type Date): US 89429525 A 19891031

... **has sequence of nitinol wires or foil strips holding structures together but will fuse when electrically heated to separate...**  
Inventor: **JULIEN G J** ...

...Abstract (Basic): for large structural elements such as payload fairings on large missile systems. A sequence of **nitinol wires or foil strips**

will, because of their high strength, hold the structures together but  
...

7/3,K/20 (Item 20 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
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008620500 \*\*Image available\*\*  
WPI Acc No: 1991-124530/199117  
XRPX Acc No: N91-095753

Structure vibration damping mechanism e.g. for satellite system - senses  
deflection of structure as it vibrates and applies opposing force to damp  
vibration

Patent Assignee: BOEING CO (BOEI )  
Inventor: JULIEN G J ; ROBINSON S P  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5005678	A	19910409	US 89318393	A	19890303	199117 B

Priority Applications (No Type Date): US 89318393 A 19890303

Inventor: JULIEN G J ...

...Abstract (Basic): The mechanism has a member having a metal alloy with  
temperature responsive **shape memory** characteristics and  
characterised by a very high specific damping capacity compared to the  
specific damping...

7/3,K/21 (Item 21 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
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008350943 \*\*Image available\*\*  
WPI Acc No: 1990-237944/199031  
XRPX Acc No: N90-184483

Shape memory metal precision actuator - has 2 assemblies using  
orthogonal pairs of shaped memory metal wires to enable pivotal movement  
about floating point

Patent Assignee: BOEING CO (BOEI )  
Inventor: CRESON J L; JULIEN G J  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4932210	A	19900612	US 88234407	A	19880819	199031 B

Priority Applications (No Type Date): US 88234407 A 19880819

Shape memory metal precision actuator...  
...Inventor: JULIEN G J

...Abstract (Basic): The **shape memory** metal actuator accurately points  
or aligns a moveable piece of equipment or other object. The...

...to enable pivotal movement about a floating pivot point while a  
canti-levered arrangement of **Nitinol** bars are used to enable pivotal  
movement about a fixed flexure point F...

Set	Items	Description
S1	8	AU=(JULIEN G? OR JULIEN, G? OR JULIEN G OR JULIEN, G OR JULIEN G. OR JULIEN, G. OR JULIEN GJ OR JULIEN, GJ OR JULIEN G.- J. OR JULIEN, G.J. OR JULIEN GERALD OR JULIEN, GERALD)
S2	18072	BALL()BEARING? OR SHAPE()MEMORY OR NITINOL
S3	17	CO=NITINOL
S4	13019	IC=(B23P? OR B21D? OR B21K?)
S5	6	S1 AND S2:S4
S6	8	S1 OR S5

? show files

File 348:EUROPEAN PATENTS 1978-2003/Dec W02  
(c) 2003 European Patent Office

File 349:PCT FULLTEXT 1979-2002/UB=20031225,UT=20031218  
(c) 2003 WIPO/Univentio



6/5,AU/1 (Item 1 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2003 European Patent Office. All rts. reserv.

01651037

NITINOL ICE BLADES  
LAMES A GLACE EN NITINOL  
PATENT ASSIGNEE:

Nitinol Technologies, Inc., (3255840), P.O. Box 1561, Milton, WA 98354,  
(US), (Applicant designated States: all

INVENTOR:

JULIEN, Gerald, J. , 11812 21st Street East, Puyallup, WA 98372, (US  
PATENT (CC, No, Kind, Date):

WO 2003072206 030904

APPLICATION (CC, No, Date): EP 2003743208 030220; WO 2003US5518 030220

PRIORITY (CC, No, Date): US 358988 P 020221

DESIGNATED STATES: AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR;  
HU; IE; IT; LI; LU; MC; NL

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO

INTERNATIONAL PATENT CLASS: A63C-001/00

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 031029 A2 International application. (Art. 158(1))

Application: 031029 A2 International application entering European  
phase

LANGUAGE (Publication,Procedural,Application): English; English; English

6/5,AU/2 (Item 2 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2003 European Patent Office. All rts. reserv.

01268927

NITINOL BALL BEARING ELEMENT AND PROCESS FOR MAKING  
KUGELLAGERTEIL AUS NITINOL UND VERFAHREN ZU DESSEN HERSTELLUNG  
ELEMENT DE ROULEMENT A BILLES EN NITINOL ET SON PROCEDE DE FABRICATION  
PATENT ASSIGNEE:

Nitinol Technologies, Inc., (3255840), P.O. Box 1561, Milton, WA 98354,  
(US), (Applicant designated States: all

INVENTOR:

JULIEN, Gerald, J. , 11812 21st Street East, Puyallup, WA 98372, (US  
LEGAL REPRESENTATIVE:

Schmitz, Jean-Marie et al (19234), Dennemeyer & Associates S.A., P.O. Box  
1502, 1015 Luxembourg, (LU)

PATENT (CC, No, Kind, Date): EP 1224045 A1 020724 (Basic)

WO 200112359 010222

APPLICATION (CC, No, Date): EP 2000955714 000818; WO 2000US22742 000818

PRIORITY (CC, No, Date): US 149947 P 990819; US 167840 P 991129; US 207010  
P 000525

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: B21K-001/05

CITED PATENTS (WO A): US 6043451 A ; US 5393145 A ; US 4657822 A ; US  
4619580 A ; US 5856631 A ; US 4561272 A ; US 5520573 A ; US 4507896 A ;  
US 5643051 A ; US 6123605 A ; US 5928065 A ; US 5913717 A ; US 5921851 A  
; US 5791972 A

NOTE:

No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 010418 A1 International application. (Art. 158(1))

Application: 010418 A1 International application entering European phase  
Application: 020724 A1 Published application with search report  
Examination: 020724 A1 Date of request for examination: 20020306  
LANGUAGE (Publication,Procedural,Application): English; English; English

6/5,AU/3 (Item 3 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2003 European Patent Office. All rts. reserv.

01156779

**NICKEL-TITANIUM SEAMLESS TUBES**  
**TUBES SANS SOUDURE EN ALLIAGE NICKEL-TITANE**  
PATENT ASSIGNEE:

Promet Technologies, Inc., (3001440), 23190 Del Lago, Laguna Hills, CA 92653, (US), (Applicant designated States: all)

INVENTOR:

SICKINGER, Albert, 14911 Dusk Street, Irvine, CA 92604, (US)  
JULIEN, Gerald, J. , 11812 21st Street East, Puyallup, WA 98372, (US)  
HISLOP, Gary, A., 20901 Paseo Pino, Lake Forest, CA 92830, (US)  
PATENT (CC, No, Kind, Date):

WO 200020146 000413  
APPLICATION (CC, No, Date): EP 99951889 991008; WO 99US23558 991008  
PRIORITY (CC, No, Date): US 103403 P 981008  
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE

INTERNATIONAL PATENT CLASS: B22D-023/00

CITED PATENTS (WO A): US 4027367 A ; US 3397732 A ; US 4447466 A

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 000607 A1 International application. (Art. 158(1))  
Application: 000607 A1 International application entering European phase  
Application: 020320 A1 International application. (Art. 158(1))  
Appl Changed: 020320 A1 International application not entering European phase

Withdrawal: 020320 A1 Date application deemed withdrawn: 20010509  
LANGUAGE (Publication,Procedural,Application): English; English; English

6/5,AU/4 (Item 4 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2003 European Patent Office. All rts. reserv.

00881903

**CUTTING INSTRUMENTS**  
**SCHNEIDEINSTRUMENTE**  
**INSTRUMENTS COUPANTS**  
PATENT ASSIGNEE:

Julien, Gerald J., (2378570), 11812-21st Street East, Edgewood, WA 98372, (US), (applicant designated states: AT;BE;CH;DE;ES;FR;GB;IT;LI;NL;SE)

INVENTOR:

Julien, Gerald J. , 11812-21st Street East, Edgewood, WA 98372, (US)  
LEGAL REPRESENTATIVE:

Schmitz, Jean-Marie et al (19233), Denнемeyer & Associates Sarl P.O. Box 1502, 1015 Luxembourg, (LU)

PATENT (CC, No, Kind, Date): EP 885093 A1 981223 (Basic)  
WO 9729892 970821

APPLICATION (CC, No, Date): EP 97907629 970214; WO 97US2324 970214  
PRIORITY (CC, No, Date): US 11648 P 960214; US 29251 P 961024; US 36784

P 970128

DESIGNATED STATES: AT; BE; CH; DE; ES; FR; GB; IT; LI; NL; SE

INTERNATIONAL PATENT CLASS: B26B-009/00;

NOTE:

No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Examination: 030319 A1 Date of dispatch of the first examination  
report: 20030204

Search Report: 20000412 A1 Date of drawing up and dispatch of  
supplementary: search report 20000223

Withdrawal: 031217 A1 Date application deemed withdrawn: 20030617

Application: 971112 A1 International application (Art. 158(1))

Application: 981223 A1 Published application (A1with Search Report  
;A2without Search Report)

Examination: 981223 A1 Date of filing of request for examination:  
980819

LANGUAGE (Publication,Procedural,Application): English; English; English

6/5,AU/5 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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01042516

NITINOL ICE BLADES

LAMES A GLACE EN NITINOL

Patent Applicant/Assignee:

NITINOL TECHNOLOGIES INC, P.O. Box 1561, Milton, WA 98354, US, US  
(Residence), US (Nationality), (For all designated states except: US

Patent Applicant/Inventor:

JULIEN Gerald J , 11812 21st Street East, Puyallup, WA 98372, US, US  
(Residence), US (Nationality), (Designated only for: US

Legal Representative:

NEARY J Michael (agent), Neary Law Office, 542 SW 298th Street, Federal  
Way, WA 98023, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200372206 A2 20030904 (WO 0372206)

Application: WO 2003US5518 20030220 (PCT/WO US0305518)

Priority Application: US 2002358988 20020221

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU

CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP

KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO

RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT SE SI  
SK TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: A63C

Publication Language: English

Filing Language: English

Fulltext Word Count: 4280

English Abstract

A **Nitinol** ice blade includes a blade body having attachment structure by which it is held in a blade holder of an ice travel device, such as an ice skate or ice boat. The processes and products made by the processes. The processes include selecting a Type 60 **Nitinol** sheet or bar that has been hot-worked at a temperature of above about 900 (deg)C to a reduction of at least 2% in the dimension of said hot-working. Blade blanks are cut from the sheet, and the blade blanks are heated to between 600(deg)C to

about 800(deg)C and immediately quenched to ambient temperature to produce blanks having a hardness of about 48-53RC. The running edge of the blade blanks a ground to a desired profile and sharpness. The ground blades may then be heated to an elevated temperature of about 850-1000(deg)C and immediately quenched to produce a hardness at the edge of above 56RC.

#### French Abstract

L'invention concerne une lame a glace en **nitinol** comprenant un corps de lame presentant une structure de fixation au moyen de laquelle la lame est maintenue dans un support de lame d'un dispositif de deplacement sur glace, notamment un patin a glace ou un bateau a glace. Des procedes et des produits sont fabriques par le biais des procedes de l'invention. Ces procedes consistent a selectionner une feuille ou une barre de **nitinol** de type 60, ayant ete faconnee a chaud, a une temperature superieure a environ 900(deg) C, pour une reduction d'au moins 2 % de la dimension dudit faconnage a chaud. Des ebauches de lame sont coupees a partir de la feuille, et les ebauches de lame sont chauffees a une temperature comprise entre 600(deg) C et environ 800(deg) C, et sont immediatement trempees a temperature ambiante pour produire des ebauches presentant une durete d'environ 48 a 53 RC. Le bord efficace des ebauches de lame est rectifie pour obtenir un profil et un degre d'aiguisement voulu. Les lames rectifiees peuvent etre chauffees a une temperature elevee d'environ 850 a 1 000(deg) C, et immediatement trempees pour produire une durete du bord efficace superieure a 56 RC.

Legal Status (Type, Date, Text)

Publication 20030904 A2 Without international search report and to be republished upon receipt of that report.

6/5,AU/6 (Item 2 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00779059

**NITINOL BALL BEARING ELEMENT AND PROCESS FOR MAKING  
ELEMENT DE ROULEMENT A BILLES EN NITINOL ET SON PROCEDE DE FABRICATION**  
Patent Applicant/Assignee:

**NITINOL TECHNOLOGIES INC**, P.O. Box 1561, Milton, WA 98354, US, US

(Residence), US (Nationality), (For all designated states except: US

Patent Applicant/Inventor:

**JULIEN Gerald J**, 11812 21st Street East, Puyallup, WA 98372, US, US

(Residence), US (Nationality), (Designated only for: US

Legal Representative:

**NEARY J Michael**, Neary Law Office, 542 SW 298th Street, Federal Way, WA 98023, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200112359 A1 20010222 (WO 0112359)

Application: WO 2000US22742 20000818 (PCT/WO US0022742)

Priority Application: US 99149947 19990819; US 99167840 19991129; US 2000207010 20000525

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW  
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: B21K-001/05

Publication Language: English  
Filing Language: English  
Fulltext Word Count: 9239

English Abstract

Bearing elements made of Type 60 **Nitinol** produced by an investment casting process include providing a ceramic mold (30) having a series of spherical cavities, pouring molten **Nitinol** into the mold cavities, cooling the mold and the **Nitinol** in the cavities producing solidified **Nitinol** balls (40), and breaking the mold away from the **Nitinol** balls.

**Nitinol** rods (80) for roller bearings can be made by conventional casting. The bars are hot machined or hot rotary swaged and then centerless ground in a ball grinding machine (42) and laser cut to length, or are first cut to length and then centerless ground individually for crowned roller elements. The balls are broken or cut from the risers, leaving the gates attached, and are consolidated by heating under pressure in a hot isostatic press (43), then ground to the desired size. The balls or rollers are polished, treated to create an integral ceramic finish and repolished to produce an extremely smooth finish.

French Abstract

L'invention concerne des elements de roulement en **nitinol** du type 60, produits au moyen d'un procede de moulage de precision a modeles perdus qui comporte les etapes consistant a : prevoir un moule ceramique (30) comportant une serie de cavites spheriques, couler du **nitinol** fondu dans les cavites du moule, refroidir le moule et le **nitinol** se trouvant dans les cavites pour produire des billes de **nitinol** (40) solidifiees, et rompre le moule de facon a liberer les billes de **nitinol**. Des tiges (80) en **nitinol** pour roulements a rouleaux peuvent etre fabriquees par moulage classique. Les barres sont usinees a chaud ou epointees de maniere rotative a chaud, et ensuite rectifiees sans centres dans une machine (42) a rectifier les billes et coupees au laser a la longueur voulue ; ou coupees d'abord a la longueur voulue et rectifiees ensuite sans centres individuellement pour des elements de rouleaux bombes. On rompt ou on decoupe les billes a partir des masselottes en laissant les attaques fixees, et on les consolide par chauffage sous pression dans une presse isostatique (43) a chaud, et on les rectifie a la taille voulue. Les billes ou les rouleaux sont poli(e)s, traite(e)s pour former un fini ceramique integral et repoli(e)s pour produire un fini extremement lisse.

Legal Status (Type, Date, Text)

Publication 20010222 A1 With international search report.

Examination 20010719 Request for preliminary examination prior, to end of 19th month from priority date

6/5,AU/7 (Item 3 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00556773

**NICKEL-TITANIUM SEAMLESS TUBES**

**TUBES SANS SOUDURE EN ALLIAGE NICKEL-TITANE**

Patent Applicant/Assignee:

PROMET TECHNOLOGIES INC,

SICKINGER Albert,

JULIEN Gerald J,

HISLOP Gary A,

Inventor(s):

SICKINGER Albert,  
JULIEN Gerald J ,  
HISLOP Gary A

Patent and Priority Information (Country, Number, Date):

Patent: WO 200020146 A1 20000413 (WO 0020146)

Application: WO 99US23558 19991008 (PCT/WO US9923558)

Priority Application: US 98103403 19981008

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE

ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT

LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT

UA UG US UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ TZ UG ZW AM AZ BY KG KZ

MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ

CF CG CI CM GA GN GW ML MR NE SN TD TG

Main International Patent Class: B22D-023/00

Publication Language: English

Fulltext Word Count: 5382

#### English Abstract

A process of producing seamless tubes of a nickel-titanium intermetallic compound by creating a plasma stream of ionized gasses and entraining small particles of **Nitinol** (99) heated to a partially molten state in the plasma stream or by creating molten nickel-titanium intermetallics with an electric arc that burns between two **Nitinol** wires in an argon gas stream, which atomizes the liquid nickel-titanium intermetallic, compound and creates a stream of molten droplets and particles, wherein the stream of particles is directed toward and impacted against a mandrel (85) and deposits a tubular layer on the mandrel. The mandrel is removed from the interior of the tubular layer, leaving a seamless nickel-titanium tube or other hollow structures, the shape of which is defined by the shape of the mandrel. For example, if the mandrel is tubular or rod-like mandrel, a tubular layer of **Nitinol** is deposited on the mandrel, and when the mandrel is removed from the interior of the tubular layer of **Nitinol**, a seamless **Nitinol** tube is left.

#### French Abstract

L'invention concerne un procede de fabrication de tubes sans soudure a partir d'un compose intermetallique nickel-titane, consistant a creer un flux de plasma de gaz ionises et a entrainer de petites particules de **nitinol** (99) chauffe a un etat en fusion partielle dans le flux de plasma, ou a creer des composes intermetalliques en fusion nickel-titane au moyen d'un arc electrique entre deux fils de **nitinol** dans un flux de gaz argon, ce qui a pour effet d'atomiser le compose intermetallique nickel-titane liquide et de creer un flux de gouttelettes et de particules en fusion qui est dirige vers un mandrin (85) sur lequel il depose par impact une couche tubulaire. On obtient, lors du retrait du mandrin de l'interieur de la couche tubulaire, un tube ou une structure creuse sans soudure nickel-titane, dont la forme est definie par celle du mandrin. Par exemple, si le mandrin est tubulaire ou en forme de tige, on depose une couche tubulaire de **nitinol** sur le mandrin ; lorsque l'on retire le mandrin de l'interieur de la couche tubulaire, un tube en **nitinol** sans soudure est forme.

6/5,AU/8 (Item 4 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00389149

CUTTING INSTRUMENTS

INSTRUMENTS COUPANTS

Patent Applicant/Assignee:

JULIEN Gerald J,  
Inventor(s):

**JULIEN Gerald J**

Patent and Priority Information (Country, Number, Date):

Patent: WO 9729892 A1 19970821

Application: WO 97US2324 19970214 (PCT/WO US9702324)

Priority Application: US 9611648 19960214; US 9629251 19961024; US  
9736784 19970128

Designated States: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB  
GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL  
PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN KE LS MW SD SZ UG AT  
BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN  
ML MR NE SN TD TG

Main International Patent Class: B26B-009/00

Publication Language: English

Fulltext Word Count: 16547

English Abstract

A process for making a cutting instrument (32) includes cutting a blank (350) from a plate (352) or strip of Type 60 **Nitinol**, having a thickness of between 0.005''-0.500'' using an abrasive waterjet (360), wire electron discharge machining (EDN) or laser cutting, and grinding top and bottom surfaces of the blank (350) by rotating a grinder (382) having cubic boron nitride or diamond abrasive particles on a cutting surface of said grinder (382) against the knife blank (350) at a surface speed of about 5000 to 7000 surface feet per minute and grinding to a depth of about 0.001 to 0.005 inches per pass to remove material along the blade surface. The surface of the blade (34) is polished to a surface finish smoother than 20 microinches RMS using Turkish emery abrasive grinding/polishing materials on a buffing wheel driven by a high power motor. The blade is then finish polished to a mirror-like luster of 2 microinches RMS or less using a fine diamond buffing compound and a buffing wheel running at about 3000 RPM. An edge (390) is ground into the polished blade blank using an Arkansas stone grinder.

French Abstract

Procede de fabrication d'un instrument coupant (32) consistant a decouper une ebauche (350) dans une plaque (352) ou dans une bande de **Nitinol** type 60, dont l'epaisseur est situee entre 0,005" et 0,500", au moyen d'un jet d'eau abrasif (360), d'un usinage au fil de decharge electronique ou d'une decoupe au laser, puis a meuler les surfaces inferieure et superieure de l'ebauche (350) avec une meuleuse en rotation (382), dont une surface coupante est pourvue de particules abrasives cubiques en nitrure de bore ou en diamant, contre l'ebauche (350) a une vitesse de surface situee entre 5000 et 7000 pieds de surface a la minute et a une profondeur de 0,001 a 0,005 pouces par passe, afin d'enlever la matiere le long de la surface de la lame. La surface de la lame (34) est polie jusqu'a une finition superieure a 20 micro-pouces RMS au moyen de materiaux abrasifs de meulage et de polissage en emeri turc sur un disque de polissage entraine par un moteur puissant. Le polissage final de lame s'effectue jusqu'a l'obtention d'un aspect miroir egal ou inferieur a 2 micro-pouces RMS au moyen d'un compose de finition au diamant fin et d'un disque de polissage tournant a 3000 tours a la minute. Un bord (390) est meule vers l'interieur de la lame polie au moyen d'une meuleuse a pierre dure d'Arkansas.

Set	Items	Description
S1	84	AU=(JULIEN G? OR JULIEN, G? OR JULIEN G OR JULIEN, G OR JULIEN G. OR JULIEN, G. OR JULIEN GJ OR JULIEN, GJ OR JULIEN G.-J. OR JULIEN, G.J. OR JULIEN GERALD OR JULIEN, GERALD)
S2	46648	BALL()BEARING? OR SHAPE()MEMORY OR NITINOL
S3	0	JULIEN(2N)GERALD
S4	2	S1 AND S2
? show files		
File	2:INSPEC 1969-2003/Dec W2	(c) 2003 Institution of Electrical Engineers
File	6:NTIS 1964-2004/Jan W1	(c) 2004 NTIS, Intl Cpyrght All Rights Res
File	8:Ei Compendex(R) 1970-2004/Dec W4	(c) 2004 Elsevier Eng. Info. Inc.
File	25:Weldasearch 1966-2002/Jul	(c) 2004 TWI Ltd
File	34:SciSearch(R) Cited Ref Sci 1990-2003/Dec W4	(c) 2003 Inst for Sci Info
File	35:Dissertation Abs Online 1861-2003/Nov	(c) 2003 ProQuest Info&Learning
File	65:Inside Conferences 1993-2004/Jan W1	(c) 2004 BLDSC all rts. reserv.
File	94:JICST-EPlus 1985-2004/Dec W4	(c)2004 Japan Science and Tech Corp(JST)
File	95:TEME-Technology & Management 1989-2004/Dec W3	(c) 2004 FIZ TECHNIK
File	99:Wilson Appl. Sci & Tech Abs 1983-2003/Nov	(c) 2003 The HW Wilson Co.
File	144:Pascal 1973-2003/Dec W2	(c) 2003 INIST/CNRS
File	434:SciSearch(R) Cited Ref Sci 1974-1989/Dec	(c) 1998 Inst for Sci Info
File	481:DELPHEs Eur Bus 95-2003/Dec W2	(c) 2003 ACFCI & Chambre CommInd Paris
File	583:Gale Group Globalbase(TM) 1986-2002/Dec 13	(c) 2002 The Gale Group
File	323:RAPRA Rubber & Plastics 1972-2003/Dec	(c) 2003 RAPRA Technology Ltd
File	18:Gale Group F&S Index(R) 1988-2004/Jan 06	(c) 2004 The Gale Group
File	111:TGG Natl.Newspaper Index(SM) 1979-2004/Jan 02	(c) 2004 The Gale Group
? pause		
?		



4/3,K/1 (Item 1 from file: 2)  
DIALOG(R)File 2:INSPEC  
(c) 2003 Institution of Electrical Engineers. All rts. reserv.

03785272 INSPEC Abstract Number: A91005053, B91005490, C91002155  
**Title: Active vibration control using NiTiNOL and piezoelectric ceramics**  
Author(s): Ikegami, R.; Wilson, D.G.; Anderson, J.R.; Julien, G.J.  
Author Affiliation: Boeing Aerosp. & Electron., Seattle, WA, USA  
Journal: Journal of Intelligent Material Systems and Structures vol.1,  
no.2 p.189-206  
Publication Date: April 1990 Country of Publication: USA  
ISSN: 1045-389X  
U.S. Copyright Clearance Center Code: 1045-389X/90/020189-18\$4.50/0  
Language: English  
Subfile: A B C

**Title: Active vibration control using NiTiNOL and piezoelectric ceramics**  
Author(s): Ikegami, R.; Wilson, D.G.; Anderson, J.R.; Julien, G.J.  
Abstract: Investigates the use of **NiTiNOL shape memory** metals as the sensor and actuator components of active vibration suppression systems are presented. Two different test set-ups consisting of aluminum cantilever beams with **NiTiNOL** wires fastened along both sides were developed. The test article for the first set-up was a very flexible, low frequency beam which utilized **NiTiNOL** wires for both sensing and actuation. The test article for the second set-up was a much stiffer, high frequency beam which utilized **NiTiNOL** wires for sensing and piezoelectric ceramics for actuation. The settling times of both beams were significantly reduced through the use of the **NiTiNOL** wire sensors and actuators. Analytical simulations were developed which correlated well with the experimental results. The results of the study demonstrated the feasibility of using **NiTiNOL** sensors and actuators for active vibration control of structural members.

...Descriptors: **shape memory effects**  
...Identifiers: **shape memory metals...**

... **NiTiNOL** wire sensors

4/3,K/2 (Item 1 from file: 65)  
DIALOG(R)File 65:Inside Conferences  
(c) 2004 BLDSC all rts. reserv. All rts. reserv.

02521353 INSIDE CONFERENCE ITEM ID: CN026304930  
**Active Vibration Suppression Using NiTiNOL Sensors and Actuators**  
Wilson, D. G.; Ikegami, R.; Anderson, J. R.; Julien, G. J.  
CONFERENCE: Damping Vol 2-Workshop  
AD REPORTS -NTIS-AD A, 1989; AD/A338085 P: ICB  
(np), (nd)  
LANGUAGE: English DOCUMENT TYPE: Conference Papers  
CONFERENCE LOCATION: West Palm Beach, FL  
CONFERENCE DATE: Feb 1989 (198902) (198902)

**Active Vibration Suppression Using NiTiNOL Sensors and Actuators**  
Wilson, D. G.; Ikegami, R.; Anderson, J. R.; Julien, G. J.

Set	Items	Description
S1	1	AU=(JULIEN G? OR JULIEN, G? OR JULIEN G OR JULIEN, G OR JULIEN G. OR JULIEN, G. OR JULIEN GJ OR JULIEN, GJ OR JULIEN G.- J. OR JULIEN, G.J. OR JULIEN GERALD OR JULIEN, GERALD)
S2	17792	BALL() BEARING? OR SHAPE() MEMORY OR NITINOL
S3	7	JULIEN(2N) GERALD
S4	0	(S1 OR S3) AND S2
S5	8	S1 OR S3
? show files		
File	9:Business & Industry(R)	Jul/1994-2003/Dec 29 (c) 2003 Resp. DB Svcs.
File	16:Gale Group PROMT(R)	1990-2004/Jan 06 (c) 2004 The Gale Group
File	20:Dialog Global Reporter	1997-2004/Jan 06 (c) 2004 The Dialog Corp.
File	80:TGG Aerospace/Def.Mkts(R)	1986-2004/Jan 06 (c) 2004 The Gale Group
File	148:Gale Group Trade & Industry DB	1976-2004/Jan 06 (c) 2004 The Gale Group
File	160:Gale Group PROMT(R)	1972-1989 (c) 1999 The Gale Group
File	621:Gale Group New Prod.Annou.(R)	1985-2004/Jan 06 (c) 2004 The Gale Group
File	636:Gale Group Newsletter DB(TM)	1987-2004/Jan 06 (c) 2004 The Gale Group
File	624:McGraw-Hill Publications	1985-2004/Jan 05 (c) 2004 McGraw-Hill Co. Inc
File	635:Business Dateline(R)	1985-2004/Jan 06 (c) 2004 ProQuest Info&Learning
File	141:Readers Guide	1983-2003/Nov (c) 2003 The HW Wilson Co
File	482:Newsweek	2000-2003/Dec 10 (c) 2003 Newsweek, Inc.
File	484:Periodical Abs Plustext	1986-2004/Dec W3 (c) 2004 ProQuest
File	646:Consumer Reports	1982-2004/Jan (c) 2004 Consumer Union
File	369:New Scientist	1994-2003/Dec W2 (c) 2003 Reed Business Information Ltd.
File	370:Science	1996-1999/Jul W3 (c) 1999 AAAS
File	560:Spokane Spokesman-Review	1994-2003/Dec 31 (c) 2004 Spokesman-Review
File	707:The Seattle Times	1989-2004/Jan 04 (c) 2004 Seattle Times
File	736:Seattle Post-Int.	1990-2004/Jan 01 (c) 2004 Seattle Post-Intelligencer

AFTER  
REVIEW,

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SIGNIF.  
HITS

ts@elsevier.nl

Set	Items	Description
S1	21945	NITINOL OR SHAPE()MEMORY OR SHAPEMEMORY OR NITI OR NI()TI - OR TITANIUM(N)NICKEL OR TINEL OR FLEXINOL
S2	6062	SMA OR SMM OR SME OR MARTEN?(5N)AUSTEN? OR TINI OR TI()NI
S3	26166	BALL()BEARING? OR BEARING()BALL? OR RACE()BEARING? OR BEAR- ING()RACE? OR BEARING()SPHERE? OR SPHER?()BEARING?
S4	26574	ROLLER()BEARING? OR NEEDLE()BEARING? OR BEARING()CAGE? OR - CAGE()BEARING? OR RACEWAY()BALL? OR BALL()RACEWAY? OR (ROLLING OR ROLLER OR BEARING)()ELEMENT?
S5	1320190	MOLD? OR MOULD? OR MELT? OR MOLTEN
S6	3421372	HEAT? OR CUT OR CUTS OR CUTTING OR GRIND? OR FORGE? ? OR F- ORGING
S7	485215	(METHOD? OR PROCESS? OR PROCEDURE? OR SYSTEM?) (3N) (MAKING - OR MANUFACTUR?)
S8	189292	IC=(B23P? OR B21D? OR B21K?)
S9	55	S1:S2 AND S3:S4
S10	11	S9 AND S1:S2(10N)S3:S4
S11	55	S9:S10
S12	31	S11 AND S5:S8
S13	55	S11:S12
S14	38	S13 AND PY<2000
S15	42	S14 OR S10
S16	42	IDPAT (sorted in duplicate/non-duplicate order)

? show files

File 347:JAPIO Oct 1976-2003/Aug(Updated 031202)

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File 350:Derwent WPIX 1963-2004/UD,UM &UP=200401

(c) 2004 Thomson Derwent

16/3,K/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

012461497 \*\*Image available\*\*  
WPI Acc No: 1999-267605/ 199923  
XRAM Acc No: C99-079603

Bearing e.g. for various industrial machines and motor vehicles - having  
crystal structure containing retained austenite of predetermined area  
ratio with martensite and spheroidized carbide after annealing

Patent Assignee: SUMITOMO METAL IND LTD (SUMQ )

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 11080896	A	19990326	JP 97236632	A	19970902	199923 B
JP 3279230	B2	20020430	JP 97236632	A	19970902	200230

Priority Applications (No Type Date): JP 97236632 A 19970902

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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JP 11080896	A		9	C22C-038/00	
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JP 3279230	B2		9	C22C-038/00	Previous Publ. patent JP 11080896
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... having crystal structure containing retained austenite of  
predetermined area ratio with martensite and spheroidized carbide after  
annealing

...Abstract (Basic): of O by weight and remainder of Fe. The crystal  
structure after annealing consists of martensite , spheroidized  
carbide and retained austenite of area ratio 5-15...

...USE - The ball bearing and roller bearing are used in various  
industrial machines and motor vehicles...

...use is small after being formed into a desired shape. The fatigue life  
of the rolling element bearings such as ball and roller bearings  
can be extended. The bearing component can be manufactured easily...

16/3,K/2 (Item 2 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2003 JPO & JAPIO. All rts. reserv.

06139356

**BEARING ELEMENTAL PART AND PRODUCTION THEREOF**

PUB. NO.: 11-080896 [JP 11080896 A]  
PUBLISHED: March 26, 1999 ( **19990326**)  
INVENTOR(s): MURAI NOBUHIRO  
APPLICANT(s): SUMITOMO METAL IND LTD  
APPL. NO.: 09-236632 [JP 97236632]  
FILED: September 02, 1997 (19970902)

**BEARING ELEMENTAL PART AND PRODUCTION THEREOF**

...PUBLISHED: **19990326**)

ABSTRACT

PROBLEM TO BE SOLVED: To produce **bearing elemental** parts easy to form into a desired shape, furthermore small in a dimensional change and...

... long rolling fatigue life and to provide a method for producing the same.

SOLUTION: This **bearing elemental** parts are ones in which the base metal is composed of, by weight, 0.7...

... and the balance Fe with impurities, the structure after quenching and tempering is composed of **martensite**, spheroidal carbide and retained **austenite**, and the area ratio of the retained austenite is regulated to 5 to 15%. As...

... same, the steel having the above compsn. is formed into parts after spheroidizing, which are **heated** at 750 to 820°C, are quenched and are furthermore tempered at 100 to...

16/3,K/3 (Item 3 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

011556642

WPI Acc No: 1997-533123/ 199749

XRAM Acc No: C97-170396

Bearing elemental **part** - composed of martensite , spherical carbide  
and residual austenite

Patent Assignee: SUMITOMO METAL IND LTD (SUMQ )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 9256105	A	19970930	JP 9664081	A	19960321	199749 B

Priority Applications (No Type Date): JP 9664081 A 19960321

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 9256105	A		8	C22C-038/00	

Bearing elemental **part**...

...composed of martensite , spherical carbide and residual austenite

...Abstract (Basic): P and an unavoidable impurity. The structure after the quenching and annealing, is composed of **martensite** , spherical carbide and residual **austenite** , and an area ratio of the residual austenite is 5 - 15...

...of low cost can be used as the base material, the material can be easily **molded** into a desired shape, and a size is hardly changed. The life of the bearing...

16/3,K/4 (Item 4 from file: 347)  
DIALOG(R) File 347:JAPIO  
(c) 2003 JPO & JAPIO. All rts. reserv.

05641305

**BEARING ELEMENT PARTS AND ITS PRODUCTION**

PUB. NO.: 09-256105 [JP 9256105 A]  
PUBLISHED: September 30, 1997 ( 19970930)  
INVENTOR(s): MURAI NOBUHIRO  
APPLICANT(s): SUMITOMO METAL IND LTD [000211] (A Japanese Company or  
Corporation), JP (Japan)  
APPL. NO.: 08-064081 [JP 9664081]  
FILED: March 21, 1996 (19960321)

**BEARING ELEMENT PARTS AND ITS PRODUCTION**

...PUBLISHED: 19970930)  
...JAPIO CLASS: Metallurgy & Heat Treating); 22.1 (MACHINERY...

**ABSTRACT**

**PROBLEM TO BE SOLVED:** To provide **bearing element** parts prepared by the use of inexpensive steel, easy in forming into desired shape, reduced...

**...SOLUTION:** The **bearing element** parts have a base material constituted of a steel material which has a chemical composition...

...to 0.04%, and further, a structure after quench-and- temper treatment is composed of **martensite** , spheroidal carbide, and retained **austenite** and the area ratio of the retained austenite is 5-15%. The steel having the chemical composition is subjected to spheroidizing, formed into parts, **heated** to 750-820 deg.C and hardened, and further tempered at 100-200 deg.C. By this procedure, a structure after quench-and-temper treatment is composed of **martensite** , spheroidal carbide, and retained **austenite** , and also the area ratio of the retained austenite can be regulated to 5-15%.

16/3,K/5 (Item 5 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

010372071 \*\*Image available\*\*

WPI Acc No: 1995-273433/ 199536

Front combination type angular ball bearing - comprises separator  
made of shape - memory alloy which gives preloading

Patent Assignee: NEC CORP (NIDE )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 7174140	A	19950711	JP 93322059	A	19931221	199536 B

Priority Applications (No Type Date): JP 93322059 A 19931221

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 7174140	A	3	F16C-025/08		

Front combination type angular ball bearing - ...

...comprises separator made of shape - memory alloy which gives  
preloading

...Abstract (Basic): The front combination angular type angular ball  
bearing comprises a separator (6) made of shape - memory alloy added  
to the tire maintenance part (7). When the temperature in the separator  
increases...



16/3,K/6 (Item 6 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2003 JPO & JAPIO. All rts. reserv.

04881540 \*\*Image available\*\*  
FACE-TO-FACE COMBINED ANGULAR BALL BEARING

PUB. NO.: 07-174140 [JP 7174140 A]  
PUBLISHED: July 11, 1995 ( 19950711)  
INVENTOR(s): NAKAMURA KAZUO  
APPLICANT(s): NEC CORP [000423] (A Japanese Company or Corporation), JP  
(Japan)  
APPL. NO.: 05-322059 [JP 93322059]  
FILED: December 21, 1993 (19931221)

FACE-TO-FACE COMBINED ANGULAR BALL BEARING

...PUBLISHED: 19950711)  
...JAPIO KEYWORD: Shape Memory Alloys)

ABSTRACT

... an outer ring side while highly holding rigidity, in a face- to-face combined angular ball bearing .

...  
...CONSTITUTION: A spacer 6 formed of a shape memory alloy is provided in an outer ring holding part 7 of a face-to-face combined angular ball bearing . The spacer 6 has a shape change characteristic such as extending by itself in an

16/3,K/9 (Item 9 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

014264512 \*\*Image available\*\*  
WPI Acc No: 2002-085210/200212  
XRPX Acc No: N02-063346

Roller bearing has shield board made of shape memory alloy which  
deforms and protrudes from bearing edge when temperature inside bearing  
exceeds predetermined value

Patent Assignee: NTN CORP (NTNT )  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2001116041	A	20010427	JP 99293919	A	19991015	200212 B

Priority Applications (No Type Date): JP 99293919 A 19991015

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2001116041	A		7	F16C-019/52	

Roller bearing has shield board made of shape memory alloy which  
deforms and protrudes from bearing edge when temperature inside bearing  
exceeds predetermined value

Abstract (Basic):

... A disc-shaped shape memory alloy made shield board (6) is  
arranged in the cyclic space between inner and outer...  
... Roller bearing with abnormal temperature detection function  
...

...The figure is a sectional view of roller bearing showing the  
condition before and after increase of temperature inside the bearing.  
(Drawing includes non

16/3,K/10 (Item 10 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

013734090 \*\*Image available\*\*  
WPI Acc No: 2001-218320/200122  
XRPX Acc No: N01-155640

Nitinol ball bearing element for manufacturing ball bearings  
comprises ball tree mold used to cast the wax ball tree forms having  
central trunk, branches and holding multiple balls using investment  
casting

Patent Assignee: NITINOL TECHNOLOGIES INC (NITI-N)

Inventor: JULIEN G J

Number of Countries: 095 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200112359	A1	20010222	WO 2000US22742	A	20000818	200122 B
AU 200067868	A	20010313	AU 200067868	A	20000818	200134
EP 1224045	A1	20020724	EP 2000955714	A	20000818	200256
			WO 2000US22742	A	20000818	

Priority Applications (No Type Date): US 2000207010 P 20000525; US 99149947  
P 19990819; US 99167840 P 19991129

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200112359 A1 E 37 B21K-001/05

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200067868 A B21K-001/05 Based on patent WO 200112359

EP 1224045 A1 E B21K-001/05 Based on patent WO 200112359

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI

Nitinol ball bearing element for manufacturing ball bearings  
comprises ball tree mold used to cast the wax ball tree forms having  
central trunk...

Abstract (Basic):

... The bearing element is produced by investment casting  
process by providing a ceramic mold. A ball tree mold...

... For use as a nitinol ball bearing element to manufacture  
ball bearings and rolling elements .

16/3,K/11 (Item 11 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

012291467 \*\*Image available\*\*  
WPI Acc No: 1999-097573/ 199909  
XRAM Acc No: C99-029003  
XRPX Acc No: N99-071021

**Imparting residual compressive stresses to steel components - by inducing  
martensite formation in a microstructure, with retained austenite after  
localised heating**

Patent Assignee: TIMKEN CO (TIMK )  
Inventor: HETZNER D W  
Number of Countries: 026 Number of Patents: 004  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 893192	A1	19990127	EP 98630038	A	19980724	199909 B
US 5879480	A	19990309	US 97900673	A	19970725	199917
EP 893192	B1	20021023	EP 98630038	A	19980724	200277
DE 69808851	E	20021128	DE 608851	A	19980724	200303
			EP 98630038	A	19980724	

Priority Applications (No Type Date): US 97900673 A 19970725

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 893192	A1	E	13	B23K-026/00	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
US 5879480	A			C21D-001/09	
EP 893192	B1	E		B23K-026/00	
Designated States (Regional): DE FR GB SE					
DE 69808851	E			B23K-026/00	Based on patent EP 893192
... by inducing martensite formation in a microstructure, with retained austenite after localised heating					

...Abstract (Basic): After heat treatment, the surface of a high speed steel component is given a residual compressive stress. The steel component is locally melted along its surface so that the thickness of the melted region is substantially less than the thickness of the component. The molten steel is rapidly solidified to transform some of the austenite into martensite. After tempering most of the surface is martensite and the solidified steel acquires a residual...

...Preferably, the surface is melted using high energy radiation which causes a molten puddle. The component is displaced relative to the beam so that the puddle moves along...

...is a process where a filler metal is placed along the steel surface and is melted by the beam. When the filler puddle solidifies, it bonds to the machine component as a cladding. Tempering converts retained austenite in the clad surface to martensite.

...

...USE - Improving the surface life of bearing surfaces of steel machine components, such as the bearing race for an antifriction tapered roller bearing.

...Title Terms: HEAT

16/3,K/13 (Item 13 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

009910058

WPI Acc No: 1994-177764/ 199422

XRAM Acc No: C94-081262

**Low alloy sintered steel with excellent fatigue strength and toughness -  
has a martensite matrix with prior austenite grains, pores and  
inclusions, for mfr of machine gear and races**

Patent Assignee: SUMITOMO ELECTRIC IND CO (SUME )

Inventor: ITO K; ITOH Y; TAKEDA Y

Number of Countries: 006 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 600421	A1	19940608	EP 93119225	A	19931129	199422 B
JP 6212368	A	19940802	JP 93326304	A	19931130	199435
US 5427600	A	19950627	US 93159808	A	19931130	199531
EP 600421	B1	19971008	EP 93119225	A	19931129	199745
DE 69314438	E	19971113	DE 614438	A	19931129	199751
			EP 93119225	A	19931129	

Priority Applications (No Type Date): JP 92343145 A 19921130

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 600421	A1	E	14	C22C-038/00	
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Designated States (Regional): DE FR GB SE

JP 6212368	A		8	C22C-038/00	
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US 5427600	A		11	C22C-009/12	
------------	---	--	----	-------------	--

EP 600421	B1	E	16	C22C-038/00	
-----------	----	---	----	-------------	--

Designated States (Regional): DE FR GB SE

DE 69314438	E			C22C-038/00	Based on patent EP 600421
-------------	---	--	--	-------------	---------------------------

... has a martensite matrix with prior austenite grains, pores and inclusions, for mfr of machine gear and races

...Abstract (Basic): least 0.15 wt.% but less than 0.8 wt.% C. The matrix is tempered **martensite** contg. prior **austenite** crystal grains with a mean grain size of not more than 15 microns. The matrix...

...obtains a compact; (v) densifying the compact by sintering or hot plastic working; and (vi) **heat** treating the compact...

...is used in the mfr. of structural parts for machines, such as gears or a **bearing race** . The steel has excellent fatigue strength and toughness...

...graphite powder, cold-formed, sintered in N2 at 1150 deg.C for 1 hr. and **forged** to produce a real:theoretical density ratio of at least 0.99: The **forged** body was carburised at 910 deg.C, held at 850 deg.C. quenched in oil...

...Abstract (Equivalent): than 0.8 percent by weight of carbon and having a matrix of a tempered **martensite** containing prior **austenite** crystal grains of not more than 15 micron in mean grain size, the matrix containing...

...Abstract (Equivalent): of the gp. Nb, V, Ti, W and Al. It has a matrix of tempered **martensite** contg. prior **austenite** grains not more than 15 mm in mtan grain size. Pores and non-metallic inclusions...

...introduce dislocations, annealed, and mixed with C powder before compacting, sintered or hot worked and **heat** treated...

...USE - For e.g. gear, bearing race .

16/3,K/15 (Item 15 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

009709620 \*\*Image available\*\*  
WPI Acc No: 1993-403173/ 199350  
XRPX Acc No: N93-311929

Roller bearings overheating test monitor - has plates with shape  
memory to react to increased temp. and form mirror to reflect light to  
signal device

Patent Assignee: CIVIL AVIATION RES INST (CIVI )

Inventor: CHECHUEVSKII V P

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
SU 1779972	A1	19921207	SU 4911412	A	19910215	199350 B

Priority Applications (No Type Date): SU 4911412 A 19910215

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
SU 1779972	A1		3	G01M-013/04	

Roller bearings overheating test monitor...

...has plates with shape memory to react to increased temp. and form  
mirror to reflect light to signal device

...Abstract (Basic): of temp. of a bearing (1) following disruption of  
normal conditions, plugs (6,7) are heated with heat -sensitive  
plates. At a limiting temp. the plates form a curved mirror surface,  
reflecting light...

...USE/ADVANTAGE - Monitoring of overheating of roller bearings . Better  
test reliability. Bul. 45/7.12.92...

16/3,K/16 (Item 16 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

009589340

WPI Acc No: 1993-282886/ 199336

XRAM Acc No: C93-126143

Mfg. steel for bearing by forming steel surface with specified austenite content - by heat processing and converting part of austenite into martensite by applying of residual compression tension

Patent Assignee: KOYO SEIKO CO LTD (KOYS )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 5163526	A	19930629	JP 9225197	A	19920212	199336 B

Priority Applications (No Type Date): JP 91266109 A 19911015

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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JP 5163526	A		3	C21D-008/00	
------------	---	--	---	-------------	--

... by heat processing and converting part of austenite into martensite by applying of residual compression tension

...Abstract (Basic): Prodn. of bearing steel comprises heat treating a steel until an austenite remaining in a surface layer of the steel is ...

...USE - For making ball bearings of machines. (Reissue of the entry advised in week 9330 based on complete specification...

...Title Terms: HEAT ;



16/3,K/18 (Item 18 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

008535027 \*\*Image available\*\*  
WPI Acc No: 1991-039090/ 199106  
XRPX Acc No: N91-030132

Slackening device of pre-load - has rotational elements, with organ when  
in operational mode, used on space vehicle

Patent Assignee: SOC NAT IND AEROSPATIALE (NRDA ); AEROSPATIALE (NRDA )  
Inventor: SCHOEFFTER J; SCHOEFFTER J P

Number of Countries: 009 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
FR 2648200	A	19901214	FR 897666	A	19890609	199106 B
US 5030016	A	19910709	US 90551567	A	19900711	199130 N
EP 466993	A	19920122	EP 90402075	A	19900718	199204 N
CA 2020909	A	19920112				199215
EP 466993	B1	19950104	EP 90402075	A	19900718	199506 N
DE 69015813	E	19950216	DE 615813	A	19900718	199512 N
			EP 90402075	A	19900718	

Priority Applications (No Type Date): FR 897666 A 19890609; EP 90402075 A  
19900718; US 90551567 A 19900711

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 466993	A				
					Designated States (Regional): DE ES GB IT NL SE
EP 466993	B1	F	8	F16C-041/04	
					Designated States (Regional): DE ES GB IT NL SE
DE 69015813	E			F16C-041/04	Based on patent EP 466993

...Abstract (Equivalent): the moving parts of a mechanism, said apparatus  
comprising a member (34) made from a **shape memory** material and  
acting on the prestress or preload means (24,10b) so as to control...

...effect of a change to its shape, when clearing a phase change  
temperature of the **shape memory** material, characterized in that the  
mechanism is carried on a spacecraft and operated when the...

...Abstract (Equivalent): In space vehicles, mechanisms such as **ball  
bearings** (14, 14') are subject to an initial preload or prestress  
enabling them to withstand the...

...launch and without leading to any clearance or play. A member (34) made  
from a **shape memory** material, e.g., makes it possible under the  
effect of its elongation, to release the...

...The control of the release can take place by means of a **heating**  
resistor (36), whose energisation leads to the member (34) clearing its  
shape change temperature. (5pp)

International Patent Class (Additional): B21D-053/10 ...

16/3,K/19 (Item 19 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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008491423 \*\*Image available\*\*

WPI Acc No: 1990-378423/ 199051

XRAM Acc No: C90-164805

XRPX Acc No: N90-288382

**Rolling bearing element having low-alloy steel member prepn. - by  
connecting support member to race rings, heating race member and  
quenching**

Patent Assignee: SFK GMBH (SKFK-N); SKF GMBH (SKFK )

Inventor: HENGERER F

Number of Countries: 004 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2232726	A	19901219	GB 90129347	A	19900611	199051 B
DE 3919199	A	19901220	DE 3919199	A	19890613	199101
FR 2648153	A	19901214	FR 907229	A	19900611	199106
JP 3031425	A	19910212	JP 90130431	A	19900522	199112
DE 3919199	C	19910905				199136
GB 2232726	B	19930217	GB 9012934	A	19900611	199307

Priority Applications (No Type Date): DE 3919199 A 19890613

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

GB 2232726 B F16C-033/64

**Rolling bearing element having low-alloy steel member prepn...**

**...by connecting support member to race rings, heating race member and  
quenching**

**...Abstract (Basic): Rolling bearing element has a supporting member of  
low-alloy steel and at least one race ring of...**

**...ring is austenised at 850 deg.C and quenched in oil, salt or water. This  
heat treatment causes the conversion of both components from an  
austenitic to a martensitic structure. The hardness of the race ring  
is brought o 58-64 HRC and that...**

**...Following quenching the rolling bearing element is tempered at  
160-220 deg.C for 1-4 hours...**

**...USE/ADVANTAGE - Used to produce rolling bearing elements of any  
form, e.g. inner ring, outer ring or rolling bodies. Heat treatment  
produces few residual stresses at the join of the race to the  
supporting member...**

**...Abstract (Equivalent): A method of producing a rolling bearing  
element having a supporting member of low-alloy steel and at least one  
race ring of...**

**...ring or rings by pressing on and/or shaping to form a one-piece rolling  
bearing element, and the rolling bearing element is heated to  
a hardening temperature and kept at this temperature for the  
austenizing of the rolling...**

**...0.15 to 0.40% by weight for the supporting member which, when the  
rolling- bearing element is kept at the hardening temperature, is  
likewise austenized and when the rolling- bearing element is  
quenched is likewise converted into a martensitic structure...**

...Title Terms: HEAT ;

16/3,K/27 (Item 27 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

000691324

WPI Acc No: 1970-28062R/197017

Making bearing races and other closed loop articles of - high carbon steel

Patent Assignee: TORRINGTON MANUFACTURING (TOR -N)

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CA 839951	A					197017 B
NL 148819	B	19760315				197616

Priority Applications (No Type Date): US 65473948 A 19650722; US 68706217 A 19680212; US 69886081 A 19691218; US 69886082 A 19691218

Making bearing races and other closed loop articles of...

...Abstract (Basic): a manner as to raise the temp. of the article above the temp. at which austenite transforms to martensite without allowing localised fluctuation of the temp. to form localised martensite. Preferably the temp. is...

16/3,K/29 (Item 29 from file: 347)

DIALOG(R) File 347:JAPIO

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05665394 \*\*Image available\*\*

TURBO MOLECULE PUMP

PUB. NO.: 09-280194 [JP 9280194 A]

PUBLISHED: October 28, 1997 ( 19971028)

INVENTOR(s): KUBO MASAHIDE

APPLICANT(s): SHIMADZU CORP [000199] (A Japanese Company or Corporation),  
JP (Japan)

APPL. NO.: 08-089830 [JP 9689830]

FILED: April 12, 1996 (19960412)

...PUBLISHED: 19971028)

...JAPIO KEYWORD: Shape Memory Alloys)

#### ABSTRACT

PROBLEM TO BE SOLVED: To extend the life of a bearing by providing a thin **heat** radiating plate located in the vicinity of an elastic body inserted between a bearing housing and a base and brought into contact with both a **ball bearing** or the bearing housing and the base...

... A rotor rotary shaft 17 is supported to be freely rotated by upper and lower **ball bearings** 18 and 19. The upper and lower **ball bearings** 18 and 19 are housed in the inner cylinder space of a bearing housing 20...

...body 21 and its lower part being attached via a lower elastic body 22. A **heat** radiating plate 30 brought into contact with both of the base 12 and the bearing...

... 20 is attached in the vicinity of the lower elastic body 22. By forming the **heat** radiating plate 30 thin, its rigidity is reduced and the damaging of the vibration-absorbing action of the lower elastic body 22 is prevented. Thus, since the friction **heat** of the bearing is effectively radiated to the base side via the **heat** radiating plate 30, the life of the bearing is extended.

16/3,K/30 (Item 30 from file: 347)

DIALOG(R)File 347:JAPIO

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04729933 \*\*Image available\*\*

SUPPORTING STRUCTURE OF ROLLING BEARING

PUB. NO.: 06-200933 [JP 6200933 A]

PUBLISHED: July 19, 1994 ( 19940719)

INVENTOR(s): YANASE YUICHI

MIZUMOTO MUNEO

KIMURA HIDE

SATO EIICHI

MURAI YOICHI

IWAMOTO TARO

APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP  
(Japan)

APPL. NO.: 04-347939 [JP 92347939]

FILED: December 28, 1992 (19921228)

...PUBLISHED: 19940719)

...JAPIO CLASS: Metallurgy & Heat Treating); 12.3 (METALS...

#### ABSTRACT

... the environmental temperature by forming a U-shaped elastic body of spring steel or of **shape memory** alloy in an integrated manner in a **roller bearing** where the U-shaped elastic body is arranged at least on either of the counter...

...inner ring 2 and an outer ring 3 which are the bearing rings of a **roller bearing** 1. The inner ring 2 is fitted with a rotary shaft 5. Further, the outer...

... the U-shaped elastic bodies 10 are formed in an integrated manner by using the **shape memory** alloy. When the clearance 7 is changed according to the change of the environmental temperature...

16/3,K/33 (Item 33 from file: 347)

DIALOG(R)File 347:JAPIO

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03747922 \*\*Image available\*\*

STRUCTURE FOR PRESSURIZING BALL BEARING APPARATUS

PUB. NO.: 04-113022 [JP 4113022 A]

PUBLISHED: April 14, 1992 ( 19920414)

INVENTOR(s): SUZUKI YASUNOBU

ITO YOKO

APPLICANT(s): NTN CORP [000357] (A Japanese Company or Corporation), JP  
(Japan)

APPL. NO.: 02-230857 [JP 90230857]

FILED: August 31, 1990 (19900831)

JOURNAL: Section: M, Section No. 1290, Vol. 16, No. 363, Pg. 42,  
August 05, 1992 (19920805)

STRUCTURE FOR PRESSURIZING BALL BEARING APPARATUS

...PUBLISHED: 19920414)

#### ABSTRACT

PURPOSE: To simplify assembly by providing a cylindrical pressurizing spacer formed of a shape memory material and provided with a cut along an axial direction between outer wheels which are separated from each other along the...

... wheels 5,5. The pressurizing spacer 7 is a cylinder formed of a cool-shrinking shape memory resin for example and is provided with a cut along an axial direction. At the time of assembly, after the outer wheels 5,5 are fitted, the pressurizing spacer 7 which has been cooled to have the cut opened is interposed between the outer wheels 5,5 and left until its temperature reaches...

16/3,K/35 (Item 35 from file: 347)  
DIALOG(R)File 347:JAPIO  
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03444759 \*\*Image available\*\*  
POWER TRANSMISSION DEVICE FOR VEHICLE

PUB. NO.: 03-107659 [JP 3107659 A]  
PUBLISHED: May 08, 1991 ( 19910508)  
INVENTOR(s): MATSUMURA TAKASHI  
APPLICANT(s): SUZUKI MOTOR CORP [000208] (A Japanese Company or  
Corporation), JP (Japan)  
APPL. NO.: 01-244263 [JP 89244263]  
FILED: September 20, 1989 (19890920)  
JOURNAL: Section: M, Section No. 1141, Vol. 15, No. 298, Pg. 39, July  
29, 1991 (19910729)

...PUBLISHED: 19910508)

#### ABSTRACT

... obtain a proper axial load according to conditions by interposing a spacer made of a **shape memory** material between a pair of taper **roller bearings** for rotatably supporting a drive bevel pinion shaft in a differential case....

...CONSTITUTION: By the fastening force of a nut 8, axial loads are given to taper **roller bearings** 4a, 4b, and the loads added to the bearings 4a, 4b are held constant by the presence of a spacer 20. As the spacer 20 is made of a **shape memory** alloy, the spacer 20 is laid in stretched state at the time of start and...



16/3,K/36 (Item 36 from file: 347)

DIALOG(R)File 347:JAPIO

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03137622 \*\*Image available\*\*

BEARING FOR BODY OF ROTATION

PUB. NO.: 02-113122 [JP 2113122 A]

PUBLISHED: April 25, 1990 ( 19900425)

INVENTOR(s): SONOI KENJI

APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP  
(Japan)

APPL. NO.: 63-263915 [JP 88263915]

FILED: October 21, 1988 (19881021)

JOURNAL: Section: M, Section No. 999, Vol. 14, No. 331, Pg. 87, July  
17, 1990 (19900717)

...PUBLISHED: 19900425)

...JAPIO KEYWORD: Shape Memory Alloys)

#### ABSTRACT

... constructed to be easy to assemble, disassemble, check, and repair, and eliminates wear in a ball bearing hole by fitting a deforming member made of a shape - memory alloy into the ball bearing hole in a bearing of a motor, etc...

...CONSTITUTION: A ball bearing 5 supporting the rotation of a rotor 2 is inserted into a bearing hole 7...

... assembling), both the bearing hole 7 and a ring hole 9 are fitted onto the ball bearing 5 with clearance fit-tolerance relative to the outer diameter of the bearing. The ring 8 is made of a shape - memory alloy, and the ring hole 9 is set to contract when temperature is high (during...

... 9 accelerates the contraction. As a result, clearance fit of an outer ring of the ball bearing 5 into the ring hole 9 becomes interference fit, and the outer ring of the ball bearing 5 is thus fixed.

16/3,K/37 (Item 37 from file: 347)

DIALOG(R)File 347:JAPIO

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03066687 \*\*Image available\*\*

BEARING DEVICE

PUB. NO.: 02-042187 [JP 2042187 A]

PUBLISHED: February 13, 1990 ( 19900213)

INVENTOR(s): TORIGOE HIROSHI

APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP  
(Japan)

APPL. NO.: 63-190625 [JP 88190625]

FILED: August 01, 1988 (19880801)

JOURNAL: Section: M, Section No. 966, Vol. 14, No. 203, Pg. 139, April  
25, 1990 (19900425)

...PUBLISHED: 19900213)

...JAPIO KEYWORD: Shape Memory Alloys)

#### ABSTRACT

... regardless of the temperature difference between shafts and spacers by forming the spacers with a **shape memory** alloy in a bearing device provided with the spacers in a oil feed space between...

... the rotors 6 and 7 are fitted to rotor shafts 8 and 9 respectively. Cylinder **roller bearings** 16-19, angular **ball bearings** 20 and 21, bearing outer wheel fixing plates 22-25, shaft seal devices 26-29...

...8 and 9. In this case, the spacers 30 and 31 are formed with a **shape memory** alloy, the spacers 30 and 31 are set to maintain the integral shape and size...

16/3,K/38 (Item 38 from file: 347)  
DIALOG(R)File 347:JAPIO  
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03003349 \*\*Image available\*\*  
ARTIFICIAL CONDYLE

PUB. NO.: 01-300949 [JP 1300949 A]  
PUBLISHED: December 05, 1989 ( 19891205)  
INVENTOR(s): TOTSUGI KATSUTOSHI  
SHINJO KIYOSHI  
APPLICANT(s): NGK SPARK PLUG CO LTD [000454] (A Japanese Company or  
Corporation), JP (Japan)  
APPL. NO.: 63-132957 [JP 88132957]  
FILED: May 31, 1988 (19880531)  
JOURNAL: Section: C, Section No. 690, Vol. 14, No. 86, Pg. 165,  
February 19, 1990 (19900219)

...PUBLISHED: 19891205)  
...JAPIO KEYWORD: Shape Memory Alloys)

ABSTRACT

...friction coefficient and to smooth the motion of a joint, by employing a  
ball-and- roller bearing system between the inner and outer spheres of  
an artificial condyle having a double structure...

16/3,K/40 (Item 40 from file: 347)

DIALOG(R)File 347:JAPIO

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02546172 \*\*Image available\*\*

SHAFT SEAL DEVICE

PUB. NO.: 63-163072 [JP 63163072 A]

PUBLISHED: July 06, 1988 ( 19880706)

INVENTOR(s): HAYAKAWA KAZUTO

APPLICANT(s): NIPPON SEIKO KK [000420] (A Japanese Company or Corporation),  
JP (Japan)

APPL. NO.: 61-311594 [JP 86311594]

FILED: December 24, 1986 (19861224)

JOURNAL: Section: M, Section No. 763, Vol. 12, No. 432, Pg. 18,  
November 15, 1988 (19881115)

...PUBLISHED: 19880706)

...JAPIO KEYWORD: Shape Memory Alloys)

#### ABSTRACT

...of assembly and starting, by forming a core metal of a seal member by a  
shape memory alloy...

... as to be mounted respectively to both end parts in the axial direction  
of a ball bearing 1, a core metal 12 of one seal device S3 is formed  
using a shape memory alloy of one-way type as the material. This core  
metal 12, providing a plurality...

16/3,K/41 (Item 41 from file: 347)  
DIALOG(R)File 347:JAPIO  
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02392820 \*\*Image available\*\*  
GAP CORRECTING DEVICE FOR ROLLING BEARING

PUB. NO.: 63-009720 [JP 63009720 A]  
PUBLISHED: January 16, 1988 ( 19880116)  
INVENTOR(s): SUGA YOSHIRO  
APPLICANT(s): NIPPON SEIKO KK [000420] (A Japanese Company or Corporation),  
JP (Japan)  
APPL. NO.: 61-153290 [JP 86153290]  
FILED: June 30, 1986 (19860630)  
JOURNAL: Section: M, Section No. 708, Vol. 12, No. 206, Pg. 102, June  
14, 1988 (19880614)

...PUBLISHED: 19880116)  
...JAPIO KEYWORD: Shape Memory Alloys)

#### ABSTRACT

... change, and prevent a reduction in bearing performance, by installing a spacer formed of a **shape memory** alloy having a two-direction characteristic at high and low temperatures between an end surface...  
...60 is installed between a back surface of an outer race 31 of a tapered **roller bearing** 30 and a side surface of an outer race retainer 11 as a positioning member opposed to the outer race 31. The spacer 60 is formed of a **shape memory** alloy having a two-direction operating characteristic wherein the spacer 60 becomes an annular member...

Set	Items	Description
S1	10702	NITINOL OR SHAPE()MEMORY OR SHAPEMEMORY OR NITI OR NI()TI - OR TITANIUM(N)NICKEL OR TINEL OR FLEXINOL
S2	11425	SMA OR SMM OR SME OR MARTEN?(5N)AUSTEN? OR TINI OR TI()NI
S3	13748	BALL()BEARING? OR BEARING()BALL? OR RACE()BEARING? OR BEAR- ING()RACE? OR BEARING()SPHERE? OR SPHER?()BEARING?
S4	12503	ROLLER()BEARING? OR NEEDLE()BEARING? OR BEARING()CAGE? OR - CAGE()BEARING? OR RACEWAY()BALL? OR BALL()RACEWAY? OR (ROLLING OR ROLLER OR BEARING)()ELEMENT?
S5	363835	MOLD? OR MOULD? OR MELT? OR MOLTEN
S6	731183	HEAT? OR CUT OR CUTS OR CUTTING OR GRIND? OR FORGE? ? OR F- ORGING
S7	284611	(METHOD? OR PROCESS? OR PROCEDURE? OR SYSTEM?) (3N) (MAKING - OR MANUFACTUR?)
S8	13019	IC=(B23P? OR B21D? OR B21K?)
S9	7	S1:S2(10N)S3:S4
S10	7	S9 AND S5:S8
S11	7	IDPAT (sorted in duplicate/non-duplicate order)

? show files

File 348:EUROPEAN PATENTS 1978-2003/Dec W02

(c) 2003 European Patent Office

File 349:PCT FULLTEXT 1979-2002/UB=20031225,UT=20031218

(c) 2003 WIPO/Univentio

11/5/1 (Item 1 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
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01268927

NITINOL BALL BEARING ELEMENT AND PROCESS FOR MAKING  
KUGELLAGERTEIL AUS NITINOL UND VERFAHREN ZU DESSEN HERSTELLUNG  
ELEMENT DE ROULEMENT A BILLES EN NITINOL ET SON PROCEDE DE FABRICATION  
PATENT ASSIGNEE:

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(US), (Applicant designated States: all)

INVENTOR:

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LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 1224045 A1 020724 (Basic)  
WO 200112359 010222

APPLICATION (CC, No, Date): EP 2000955714 000818; WO 2000US22742 000818  
PRIORITY (CC, No, Date): US 149947 P 990819; US 167840 P 991129; US 207010  
P 000525

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;  
LU; MC; NL; PT; SE

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: B21K-001/05

CITED PATENTS (WO A): US 6043451 A ; US 5393145 A ; US 4657822 A ; US  
4619580 A ; US 5856631 A ; US 4561272 A ; US 5520573 A ; US 4507896 A ;  
US 5643051 A ; US 6123605 A ; US 5928065 A ; US 5913717 A ; US 5921851 A  
; US 5791972 A

NOTE:

No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 010418 A1 International application. (Art. 158(1))

Application: 010418 A1 International application entering European  
phase

Application: 020724 A1 Published application with search report

Examination: 020724 A1 Date of request for examination: 20020306

LANGUAGE (Publication,Procedural,Application): English; English; English

11/5/2 (Item 2 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
(c) 2003 WIPO/Univentio. All rts. reserv.

00779059 \*\*Image available\*\*

NITINOL BALL BEARING ELEMENT AND PROCESS FOR MAKING  
ELEMENT DE ROULEMENT A BILLES EN NITINOL ET SON PROCEDE DE FABRICATION

Patent Applicant/Assignee:

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Patent Applicant/Inventor:

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Legal Representative:

NEARY J Michael, Neary Law Office, 542 SW 298th Street, Federal Way, WA  
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Patent and Priority Information (Country, Number, Date):

Patent: WO 200112359 A1 20010222 (WO 0112359)

Application: WO 2000US22742 20000818 (PCT/WO US0022742)

Priority Application: US 99149947 19990819; US 99167840 19991129; US  
2000207010 20000525

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ  
DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ  
LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG  
SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW  
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: B21K-001/05

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 9239

#### English Abstract

**Bearing** elements made of Type 60 **Nitinol** produced by an investment casting process include providing a ceramic **mold** (30) having a series of spherical cavities, pouring **molten** Nitinol into the **mold** cavities, cooling the **mold** and the Nitinol in the cavities producing solidified Nitinol balls (40), and breaking the **mold** away from the **Nitinol** balls. **Nitinol** rods (80) for **roller bearings** can be made by conventional casting. The bars are hot machined or hot rotary swaged and then centerless ground in a ball **grinding** machine (42) and laser **cut** to length, or are first **cut** to length and then centerless ground individually for crowned roller elements. The balls are broken or **cut** from the risers, leaving the gates attached, and are consolidated by **heating** under pressure in a hot isostatic press (43), then ground to the desired size. The balls or rollers are polished, treated to create an integral ceramic finish and repolished to produce an extremely smooth finish.

#### French Abstract

L'invention concerne des elements de roulement en nitinol du type 60, produits au moyen d'un procede de moulage de precision a modeles perdus qui comporte les etapes consistant a : prevoir un moule ceramique (30) comportant une serie de cavites spheriques, couler du nitinol fondu dans les cavites du moule, refroidir le moule et le nitinol se trouvant dans les cavites pour produire des billes de nitinol (40) solidifiees, et rompre le moule de facon a liberer les billes de nitinol. Des tiges (80) en nitinol pour roulements a rouleaux peuvent etre fabriquees par moulage classique. Les barres sont usees a chaud ou epointees de maniere rotative a chaud, et ensuite rectifiees sans centres dans une machine (42) a rectifier les billes et coupees au laser a la longueur voulue ; ou coupees d'abord a la longueur voulue et rectifiees ensuite sans centres individuellement pour des elements de rouleaux bombes. On rompt ou on decoupe les billes a partir des masselottes en laissant les attaques fixees, et on les consolide par chauffage sous pression dans une presse isostatique (43) a chaud, et on les rectifie a la taille voulue. Les billes ou les rouleaux sont poli(e)s, traite(e)s pour former un fini ceramique integral et repoli(e)s pour produire un fini extremement lisse.

Legal Status (Type, Date, Text)

Publication 20010222 A1 With international search report.

Examination 20010719 Request for preliminary examination prior to end of 19th month from priority date



DIALOG(R)File 348:EUROPEAN PATENTS  
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01563432

**Ballpoint pen with a ball bearing of shape memory alloy**  
**Kugelschreiber mit einer Kugelspitze aus einer Formgedachtnislegierung**  
**Stylo a bille comprenant une pointe porte-bille d'un alliage a memoire de**  
**forme**

**PATENT ASSIGNEE:**

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**INVENTOR:**

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**PATENT (CC, No, Kind, Date):** EP 1300259 A2 030409 (Basic)  
EP 1300259 A3 031029

**APPLICATION (CC, No, Date):** EP 2002018169 020819;

**PRIORITY (CC, No, Date):** US 969811 011004

**DESIGNATED STATES:** AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR;  
IE; IT; LI; LU; MC; NL; PT; SE; SK; TR

**EXTENDED DESIGNATED STATES:** AL; LT; LV; MK; RO; SI

**INTERNATIONAL PATENT CLASS:** B43K-007/00; B43K-001/08; B43K-007/10

**ABSTRACT EP 1300259 A2**

A ballpoint (10) pen has an ink reservoir tube (12) which stores ink (13), a point assembly (14) disposed in the front of the ink reservoir tube (12), and a ball bearing (16) held at the front end of the point assembly (14). The **ball bearing** (16) is a **shape memory alloy (SMA)**, Preferably a **TiNi** intermetallic compound or a **TiNi** based alloy. The **ball bearing** (16) solves the problem of ink failing to flow when the ballpoint pen (10) is dropped on the ground.

**ABSTRACT WORD COUNT:** 86

**NOTE:**

Figure number on first page: 1

**LEGAL STATUS (Type, Pub Date, Kind, Text):**

**Application:** 030409 A2 Published application without search report  
**Change:** 031029 A2 International Patent Classification changed:  
20030906

**Search Report:** 031029 A3 Separate publication of the search report

**LANGUAGE (Publication,Procedural,Application):** English; English; English

**FULLTEXT AVAILABILITY:**

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200315	164
SPEC A	(English)	200315	1578
Total word count - document A			1742
Total word count - document B			0
Total word count - documents A + B			1742

11/5/4 (Item 4 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00966689 \*\*Image available\*\*

**MEDICAMENT DISPENSER FOR CONTAINERS OF VARYING SIZES**

**DISTRIBUTEUR DE MEDICAMENTS**

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0DP, GB, GB (Residence), GB (Nationality), (Designated only for: US)

Legal Representative:

RICE Jason Neale (agent), GlaxoSmithKline, Corporate Intellectual  
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Patent and Priority Information (Country, Number, Date):

Patent: WO 2002100469 A2-A3 20021219 (WO 02100469)

Application: WO 2002EP5320 20020514 (PCT/WO EP0205320)

Priority Application: GB 200114176 20010611; GB 200114175 20010611

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU

CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP

KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO

RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: A61M-015/00

International Patent Class: A61M-005/20

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 20928

English Abstract

There is provided a medicament dispenser comprising a housing; a  
medicament container having a dispensing mechanism; a container seat for  
receipt of the container; an anchor station on the housing or connecting  
therewith; and drive means capable of moving the container seat relative  
to the anchor station to actuate the dispensing mechanism. The drive  
means is responsive to the application of non-mechanical energy thereto.  
The medicament dispenser further comprises adjusting means adapted to  
enable medicament containers of varying sizes to be received by the  
housing.

French Abstract

L'invention concerne un distributeur de medicaments comprenant un boitier  
; un contenant pour medicaments ayant un mecanisme de distribution ; un  
siege de contenant pour recevoir ledit contenant ; un poste d'ancrage sur  
le boitier ou en connexion avec lui ; et un element de commande  
permettant de deplacer le siege du contenant par rapport au poste  
d'ancrage afin d'actionner le mecanisme de distribution. L'element de  
commande reagit a l'application d'energie non mecanique sur lui. Ledit  
distributeur de medicaments comprend en outre des elements d'ajustement  
appropriés pour permettre aux recipients de medicaments de différentes  
dimensions d'être logés dans le boitier.

Legal Status (Type, Date, Text)

Publication 20021219 A2 Without international search report and to be

republished upon receipt of that report.  
Search Rpt 20030501 Late publication of international search report  
Republication 20030501 A3 With international search report.  
Examination 20030918 Request for preliminary examination prior to end of  
19th month from priority date

11/5/5 (Item 5 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00835529 \*\*Image available\*\*

**STRESS-INDUCED INTERPOSED CONNECTOR**  
**RACCORD INTERCALAIRE ACTIVE PAR CONTRAINTE**

Patent Applicant/Inventor:

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Legal Representative:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200169108 A1 20010920 (WO 0169108)

Application: WO 2001US7950 20010312 (PCT/WO US0107950)

Priority Application: US 2000523719 20000311

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: F16J-015/02

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 6777

**English Abstract**

A connecting assembly (110) is disclosed having a first component (120) defining an opening (122), a second component (112) adapted to be retained together with the first component and a washer component (114) made of a super-elastic alloy. Relative motion between at least two of the components (112, 114, 120) causes a super-elastic activation in the washer (114) wherein the activation simultaneously retains the components (112, 120) together with the washer component (114) interposed jointly there between. The super-elastic component (114) can expand or contract to also form a seal, preferably upon mechanical stress activation using interference fit with one or more of the other components (112, 120) of the assembly (110). This improved seal is useful in fluid connectors such as hoses (510), electrical connectors (710), torque transmission devices (510), and for dampening vibration. Preferably the washer component (114) is pre-assembled to one of the first (120) and second components (112). More preferably, the first component (120) is pre-assembled with the washer (114) and the component (112) is moved relative to the pre-assembled components to activate the super-elastic alloy of the washer (114). The resultant assemblies (110) form high performance connections and seals that are corrosion and wear resistant. These assemblies (110) are fully reversible and because of the elastic

properties in the washer (114) the assemblies (110) contain hugh surface-to-surface contact, which allow them to exhibit strong axial and torsional holding forces.

#### French Abstract

L'invention concerne un ensemble raccord (110) qui comprend un premier element (120) delimitant une ouverture (122), un second element (112) adapte pour se fixer au premier element, et un element de rondelle (114) fait en alliage super-elastique. Un mouvement relatif entre au moins deux des elements (112, 114, 120) provoque dans l'element de rondelle (114) une activite super-elastique qui solidarise simultanement les elements (112, 120) avec l'element de rondelle (114) intercale entre eux. L'element super-elastique (114) peut s'expanser ou se contracter pour former egalement un joint d'etancheite, de preference apres activation par contrainte mecanique mettant en oeuvre un ajustement serre avec un ou plusieurs des elements (112, 120) de l'ensemble (110). Ce joint d'etancheite ameliore est utile dans des raccords hydrauliques (tels que des tubes flexibles (510)), des connecteurs electriques (710), des dispositifs de transmission de couple (510), ainsi que pour attenuer des vibrations. De preference, l'element de rondelle (114) est preassemble au premier (120) ou au second element (112). De preference, le premier element (120) est preassemble a l'element de rondelle (114) et le second element (112) est deplace relativement aux elements preassembles pour activer l'alliage super-elastique de l'element de rondelle (114). Les ensembles (110) resultants forment des raccords et des joints d'etancheite a haute performance resistants a la corrosion et a l'usure. Ces ensembles (110) sont entierement reversibles et, du fait des proprietes elastiques de l'element de rondelle (114), offrent un contact surface-surface eleve qui leur confere une grande force d'ancrage axiale et en torsion.

Legal Status (Type, Date, Text)

Publication 20010920 A1 With international search report.

Publication 20010920 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

11/5/6 (Item 6 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00756893 \*\*Image available\*\*

**STRESS-INDUCED SEAL**

**JOINTS A INDUCTION DE CONTRAINTE**

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Legal Representative:

CHIATALAS John L (agent), P.O. Box 8, Schooley's Mountain, NJ 07870-0008, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200070244 A2-A3 20001123 (WO 0070244)

Application: WO 2000US13338 20000515 (PCT/WO US0013338)

Priority Application: US 99311938 19990514

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE

DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC

LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK

SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: F16J-015/08

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 6985

#### English Abstract

A non-corrosive metallic sealing assembly (310) is disclosed having a super-elastic component (314) made of, e.g., nitinol. The super-elastic component can expand or contract to form a seal, preferably upon mechanical stress activation using interference fit with one or more other components (312, 320) of the assembly. The improved seal is useful in fluid connectors such as hoses, electrical connectors, torque transmission devices, in vibration-dampening devices, and hinge or ball and socket joints. The assembly can seal against other components having different coefficients of thermal expansion or contraction, offering reduced temperature sensitivity during seal formation and at high performance operating conditions.

#### French Abstract

L'invention porte sur un ensemble d'etancheite metallique non corrosif possedant un composant super-elastique concu dans du nitinol, par exemple. Ce composant super-elastique peut se dilater ou se contracter de facon a former un joint a ajustement serre avec un ou plusieurs autres composants de l'ensemble, de preference lors de l'induction d'une contrainte mecanique. Ce joint ameliore est utilise dans les connecteurs hydrauliques tels que les tuyaux, les connecteurs electriques, les dispositifs de transmission de couple, dans les dispositifs d'amortissement des vibrations et les assemblages a rotule ou les joints a bille. Cet ensemble peut etancheifier d'autres composants ayant differents coefficients de dilatation ou contraction thermique, ce qui permet ainsi de reduire la sensibilite a la temperature lors de la formation du joint et dans des conditions de fonctionnement a rendement eleve.

Legal Status (Type, Date, Text)

Publication 20001123 A2 Without international search report and to be republished upon receipt of that report.

Search Rpt 20010525 Late publication of international search report

Republication 20010525 A3 With international search report.

11/5/7 (Item 7 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00489005 \*\*Image available\*\*

SPORTS IMPLEMENT WITH ENHANCED ENERGY TRANSFER, CONTROL OF FLEXION AND VIBRATION DAMPENING

ARTICLES DE SPORT BENEFICIAINT D'UN MEILLEUR TRANSFERT DE L'ENERGIE, D'UN MEILLEUR CONTROLE DE LA FLEXION ET D'UN AMORTISSEMENT DES VIBRATIONS AMELIORE

Patent Applicant/Assignee:

SCHNEIDER Terry L,

Inventor(s):

SCHNEIDER Terry L,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9920357 A1 19990429  
Application: WO 98US22303 19981020 (PCT/WO US9822303)  
Priority Application: US 9762584 19971020; US 9893545 19980721  
Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES  
FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD  
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US  
UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE  
CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN  
GW ML MR NE SN TD TG  
Main International Patent Class: A63B-049/02  
International Patent Class: A63B-053/10; A63B-053/12; A63B-059/06;  
A63B-059/12  
Publication Language: English  
Fulltext Availability:  
Detailed Description  
Claims  
Fulltext Word Count: 6371

#### English Abstract

The invention provides sports implements with a shape memory alloy insert (35) located in a region of the implement that is subject to greatest force due to impact of the implement with a projectile. For composite structures, the shape memory alloy insert (35) is integrally formed into a shaft (22) of the sports implement (20), and is surrounded by composite plies (46, 48). In certain embodiments, more than one shape memory alloy insert (35, 55) may be used. When the shape memory alloy undergoes a stress-induced martensitic phase transformation, a significant portion of the generated energy is absorbed by the alloy and only a reduced amount is transmitted to a user.

#### French Abstract

Cette invention concerne un article de sport (20) comprenant un element rapporte (35) en alliage a memoire de forme (AMF) situe dans une region de l'article ayant une plus grande flexibilite, une meilleure deformation de flexion ou une force d'impact accrue. Dans l'etat austenitique, l'alliage a memoire de forme subit une transformation de phase induite par les contraintes, ce qui le fait passer de l'etat austenitique a l'etat martensitique lors de l'impact de la force (contrainte). Lorsque la contrainte disparaît, l'etat martensitique fait place a l'etat austenitique, ce qui a pour effet d'absorber l'energie des vibrations (en raison de sa capacite d'amortissement specifique elevee) et de liberer une quantite significative de l'energie stockee en raison de ses proprietes superelastique. Ces deux effets permettent de produire un article de sport (20) presentant un meilleur transfert de l'energie et une capacite accrue d'amortissement des vibrations. Le fait de placer l'alliage a memoire de forme au niveau du point de flexion sur l'article (20) permet de stabiliser ce dernier (20) pour reduire au minimum les modes de flexion en torsion non desires. Des elements rapportes (35) en alliage a memoire de forme qui se trouvent au depart a l'etat martensitique peuvent egalement etre utilises pour amortir les vibrations de l'article de sport (20).

Set	Items	Description
S1	47797	NITINOL OR SHAPE()MEMORY OR SHAPEMEMORY OR NITI OR NI()TI - OR TITANIUM(N)NICKEL OR TINEL OR FLEXINOL
S2	61684	SMA OR SMM OR SME OR MARTEN?(5N)AUSTEN? OR TINI OR TI()NI
S3	12838	BALL()BEARING? OR BEARING()BALL? OR RACE()BEARING? OR BEAR- ING()RACE? OR BEARING()SPHERE? OR SPHER?()BEARING?
S4	13210	ROLLER()BEARING? OR NEEDLE()BEARING? OR BEARING()CAGE? OR - CAGE()BEARING? OR RACEWAY()BALL? OR BALL()RACEWAY? OR (ROLLING OR ROLLER OR BEARING)()ELEMENT?
S5	1109268	MOLD? OR MOULD? OR MELT? OR MOLTEN
S6	3452978	HEAT? OR CUT OR CUTS OR CUTTING OR GRIND? OR FORGE? ? OR F- ORGING
S7	459885	(METHOD? OR PROCESS? OR PROCEDURE? OR SYSTEM?) (3N) (MAKING - OR MANUFACTUR?)
S8	96	S1:S2 AND S3:S4
S9	40	S8 AND S5:S7
S10	96	S8:S9
S11	79	S10 AND PY<2000
S12	63	RD (unique items)
? show files		
File	2:INSPEC 1969-2003/Dec W2	(c) 2003 Institution of Electrical Engineers
File	6:NTIS 1964-2004/Jan W1	(c) 2004 NTIS, Intl Cpyrght All Rights Res
File	8:Ei Compendex(R) 1970-2004/Dec W4	(c) 2004 Elsevier Eng. Info. Inc.
File	25:Weldasearch 1966-2002/Jul	(c) 2004 TWI Ltd
File	34:SciSearch(R) Cited Ref Sci 1990-2003/Dec W4	(c) 2003 Inst for Sci Info
File	35:Dissertation Abs Online 1861-2003/Nov	(c) 2003 ProQuest Info&Learning
File	65:Inside Conferences 1993-2004/Jan W1	(c) 2004 BLDSC all rts. reserv.
File	94:JICST-EPlus 1985-2004/Dec W4	(c)2004 Japan Science and Tech Corp(JST)
File	95:TEME-Technology & Management 1989-2004/Dec W3	(c) 2004 FIZ TECHNIK
File	99:Wilson Appl. Sci & Tech Abs 1983-2003/Nov	(c) 2003 The HW Wilson Co.
File	144:Pascal 1973-2003/Dec W2	(c) 2003 INIST/CNRS
File	434:SciSearch(R) Cited Ref Sci 1974-1989/Dec	(c) 1998 Inst for Sci Info
File	481:DELPHES Eur Bus 95-2003/Dec W2	(c) 2003 ACFCI & Chambre CommInd Paris
File	583:Gale Group Globalbase(TM) 1986-2002/Dec 13	(c) 2002 The Gale Group
File	323:RAPRA Rubber & Plastics 1972-2003/Dec	(c) 2003 RAPRA Technology Ltd
File	18:Gale Group F&S Index(R) 1988-2004/Jan 06	(c) 2004 The Gale Group
File	111:TGG Natl.Newspaper Index(SM) 1979-2004/Jan 02	(c) 2004 The Gale Group

12/3,K/5 (Item 5 from file: 2)  
DIALOG(R) File 2:INSPEC  
(c) 2003 Institution of Electrical Engineers. All rts. reserv.

03539938 INSPEC Abstract Number: A90023081

Title: A study of the mechanical properties of martensite-bainite dual phase structure of ball bearing steel

Author(s): Xu Zuoren; Huang Xingjia

Author Affiliation: Shanghai Jiaotong Univ., China

Journal: Journal of Shanghai Jiaotong University vol.23, no.4 p. 8-19

Publication Date: 1989 Country of Publication: China

CODEN: SCTPDH ISSN: 0253-9942

Language: Chinese

Subfile: A

Title: A study of the mechanical properties of martensite-bainite dual phase structure of ball bearing steel

...Abstract: The underdeveloped mechanical properties are better utilized. This is due to the thermally-formed prior **martensite** partitioning the under-cooled **austenite** grains, refining the effective grain size and lath dimension of successively transformed bainite. The lower...

...Identifiers: ball bearing steel

1989



12/3,K/24 (Item 11 from file: 8)  
DIALOG(R)File 8:EI Compendex(R)  
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

00566518 E.I. Monthly No: EI7609063542 E.I. Yearly No: EI76074058  
Title: **Metallurgical Factors to Be Taken into Account to Ensure Long-Range Dimensional Stability of Ball Bearing Steel.**  
Title: FACTEURS METALLURGIQUES A PRENDRE EN COMPTE POUR ASSURER LA STABILITE DIMENSIONNELLE DANS LE TEMPS DES ACIERS POUR ROULEMENT.  
Author: Murry, G.; Sauzay, C.  
Corporate Source: OTUA, Fr  
Source: Mecanique-Materiaux-Electricite v 59 n 316 Apr 1976 p 19-27  
Publication Year: 1976  
CODEN: MMXEA5 ISSN: 0025-6439  
Language: FRENCH

Title: **Metallurgical Factors to Be Taken into Account to Ensure Long-Range Dimensional Stability of Ball Bearing Steel.**

Abstract: In order to prevent the dimensional stability of ball bearing steel from being endangered by transformations involving residual austenite and martensite, it is necessary to obtain the minimum possible residual austenite concentration and the maximum possible...

...Descriptors: Transformations; HEAT TREATMENT...

12/3,K/52 (Item 17 from file: 144)  
DIALOG(R)File 144:Pascal  
(c) 2003 INIST/CNRS. All rts. reserv.

03694755 PASCAL No.: 82-0211273

CONTRIBUTION A L'ETUDE ET A L'IDENTIFICATION D'UNE LOI DE COMPORTEMENT A  
STRUCTURE HEREDITAIRE: LE CAS DE L'ACIER A PALIER

(CONTRIBUTION TO THE STUDY AND THE IDENTIFICATION OF A SHAPE MEMORY  
EFFECT LAW: CASE OF A BALL BEARING STEEL)

FAVIER DENIS

Univ.: TH. DOCT.-ING./GRENOBLE 1-INPG/1981

1981 135 P.

Language: FRENCH

(CONTRIBUTION TO THE STUDY AND THE IDENTIFICATION OF A SHAPE MEMORY  
EFFECT LAW: CASE OF A BALL BEARING STEEL)

1981

... BY TENSOR ANALYSIS OF THE HYSTERESIS AND COLD-WORK EFFECTS APPEARING  
IN ORDINARY SO-CALLED " BALL BEARING " STEELS. EFFECT OF CYCLIC LOADING  
CREEP AND HESITATION AT CREEP AND AT STRESS RELAXATION

English Descriptors: BALL BEARING STEEL; SHAPE MEMORY EFFECT;  
PLASTICITY; FRICTION; MATHEMATICAL MODEL; CREEP; TENSION TEST;  
COMPRESSION TEST; STRESS RELAXATION; CYCLIC LOAD; STEEL...

Set	Items	Description
S1	4718	NITINOL OR SHAPE()MEMORY OR SHAPEMEMORY OR NITI OR NI()TI - OR TITANIUM(N)NICKEL OR TINEL OR FLEXINOL
S2	64596	SMA OR SMM OR SME OR MARTEN?(5N)AUSTEN? OR TINI OR TI()NI
S3	15435	BALL()BEARING? OR BEARING()BALL? OR RACE()BEARING? OR BEAR- ING()RACE? OR BEARING()SPHERE? OR SPHER?()BEARING?
S4	13802	ROLLER()BEARING? OR NEEDLE()BEARING? OR BEARING()CAGE? OR - CAGE()BEARING? OR RACEWAY()BALL? OR BALL()RACEWAY? OR (ROLLING OR ROLLER OR BEARING)()ELEMENT?
S5	795241	MOLD? OR MOULD? OR MELT? OR MOLTEN
S6	6977392	HEAT? OR CUT OR CUTS OR CUTTING OR GRIND? OR FORGE? ? OR F- ORGING
S7	1070514	(METHOD? OR PROCESS? OR PROCEDURE? OR SYSTEM?) (3N) (MAKING - OR MANUFACTUR?)
S8	4	S1:S2(10N)S3:S4
S9	98	S1:S2 AND S3:S4
S10	98	S8:S9
S11	79	S10 AND S5:S7
S12	98	S10:S11
S13	59	S12 AND PY<2000
S14	53	RD (unique items)
S15	55	S14 OR S8

? show files

File 9:Business & Industry(R) Jul/1994-2003/Dec 29  
(c) 2003 Resp. DB Svcs.

File 16:Gale Group PROMT(R) 1990-2004/Jan 06  
(c) 2004 The Gale Group

File 20:Dialog Global Reporter 1997-2004/Jan 06  
(c) 2004 The Dialog Corp.

File 80:TGG Aerospace/Def.Mkts(R) 1986-2004/Jan 06  
(c) 2004 The Gale Group

File 148:Gale Group Trade & Industry DB 1976-2004/Jan 06  
(c)2004 The Gale Group

File 160:Gale Group PROMT(R) 1972-1989  
(c) 1999 The Gale Group

File 621:Gale Group New Prod.Annou.(R) 1985-2004/Jan 06  
(c) 2004 The Gale Group

File 636:Gale Group Newsletter DB(TM) 1987-2004/Jan 06  
(c) 2004 The Gale Group

File 624:McGraw-Hill Publications 1985-2004/Jan 05  
(c) 2004 McGraw-Hill Co. Inc

File 635:Business Dateline(R) 1985-2004/Jan 06  
(c) 2004 ProQuest Info&Learning

File 141:Readers Guide 1983-2003/Nov  
(c) 2003 The HW Wilson Co

File 482:Newsweek 2000-2003/Dec 10  
(c) 2003 Newsweek, Inc.

File 484:Periodical Abs Plustext 1986-2004/Dec W3  
(c) 2004 ProQuest

File 646:Consumer Reports 1982-2004/Jan  
(c) 2004 Consumer Union

File 369:New Scientist 1994-2003/Dec W2  
(c) 2003 Reed Business Information Ltd.

File 370:Science 1996-1999/Jul W3  
(c) 1999 AAAS

File 560:Spokane Spokesman-Review 1994-2003/Dec 31  
(c) 2004 Spokesman-Review

File 707:The Seattle Times 1989-2004/Jan 04  
(c) 2004 Seattle Times

File 736:Seattle Post-Int. 1990-2004/Jan 01  
(c) 2004 Seattle Post-Intelligencer

t 15/5,k/4,7,9,45,46

15/5,K/4 (Item 4 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2004 The Gale Group. All rts. reserv.

03242635 Supplier Number: 44457306 (USE FORMAT 7 FOR FULLTEXT)  
**NEW HAMPSHIRE BALL BEARINGS , INC. ADDS ROLLER BEARINGS TO PRODUCT LINE**

News Release, pN/A  
Feb 22, 1994

Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 453  
PUBLISHER NAME: Various  
COMPANY NAMES: \*New Haampshire Ball Brg  
EVENT NAMES: \*330 (Product information)  
GEOGRAPHIC NAMES: \*1U1NH (New Hampshire); 1USA (United States)  
PRODUCT NAMES: 3562000 (Ball & Roller Bearings )  
INDUSTRY NAMES: BUS (Business, General); BUSN (Any type of business)  
NAICS CODES: 332991 (Ball and Roller Bearing Manufacturing)  
SPECIAL FEATURES: LOB; COMPANY

(USE FORMAT 7 FOR FULLTEXT)  
**NEW HAMPSHIRE BALL BEARINGS , INC. ADDS ROLLER BEARINGS TO PRODUCT LINE**

TEXT:

New Hampshire Ball Bearings , Inc.

... 993-4100

Capital Relations, Inc.  
Phyllis Grabot or  
Bonnie Quintanilla  
(805)494-0830

**NEW HAMPSHIRE BALL BEARINGS , INC.**

**ADDS ROLLER BEARINGS TO PRODUCT LINE**

PETERBOROUGH, NH, February 22,1994--New Hampshire Ball Bearings , Inc. (NHBB), a major supplier of precision bearings and bearing products, has completed its first shipment of its new roller bearing product line. The completely customized roller bearing shipment was developed in direct response to requests for the product from NHBB's customers...

...and COOy "For us to fit the bill we needed  
to add high quality, precision roller bearings  
to our product mix. We  
took a look at the talent in our organization and...

...let's do it.'

And, less than a year later, we were shipping our first roller bearing lot."

The sizes of the high-precision cylindrical roller bearings in the initial lot range from 2" outside diameter (O.D.) to 10" O.D., with the rollers themselves ranging from 5mm to 20mm. In addition, NHBB's roller bearing

(more)

**Roller Bearings**

2-2-2

professionals can also manufacture bearings up to 12" O.D., rollers from...

...airframe-mounted gearboxes, engine starters, generators and auxiliary power units. NHBB is also expanding its **roller bearing** market to reach linear motion applications and other high precision non- aerospace applications.

"Although this listing represents an impressive cross section of the **roller bearings**

NHBB is able to produce, it by no means reflects the limits of our future order capabilities," said Yomantas. "Our sales and customer service teams have been rigorously trained in **roller bearing** technology and applications. We listen to all roller-related requests and match the application with...

...engineering group. We will be hard pressed to say 'we can't do it'."

(more)

**Roller Bearings**

3-3-3

New Hampshire Bali Bearings

With manufacturing facilities in Peterborough and Laconia, New...

...ends, sphericals, composite components, and miniature and instrument bearings, as well as ball and cylindrical **roller bearings**. NHBB is a member of the Minebea Group of companies.

PRODUCT NAMES: 3562000 (Ball & **Roller Bearings**)

NAICS CODES: 332991 (Ball and **Roller Bearing** Manufacturing)  
19940222

15/5,K/7 (Item 7 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)

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01798397 Supplier Number: 42265476 (USE FORMAT 7 FOR FULLTEXT)  
**MITSUBISHI REDESIGNS SLEEVE BEARING FANS TO MATCH LIFETIME OF BALL BEARING FANS**

News Release, p1

August 1, 1991

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 895

PUBLISHER NAME: Various

COMPANY NAMES: \*Mitsubishi Electron Amer

EVENT NAMES: \*330 (Product information)

GEOGRAPHIC NAMES: \*1USA (United States); 1U9CA (California)

PRODUCT NAMES: \*3564318 (Electronic Equip Fans)

INDUSTRY NAMES: BUS (Business, General); BUSN (Any type of business)

NAICS CODES: 333412 (Industrial and Commercial Fan and Blower Manufacturing)

TRADE NAMES: MMS-O6E; MMS-O6D; MMS-O6C; MMS-O8C; MMS-O9B

SPECIAL FEATURES: COMPANY

**MITSUBISHI REDESIGNS SLEEVE BEARING FANS TO MATCH LIFETIME OF BALL BEARING FANS**

... McGarry Public Relations

August 1, 1991

**MITSUBISHI REDESIGNS SLEEVE BEARING FANS TO MATCH LIFETIME OF BALL BEARING FANS**

Sunnyvale, CA -- A new line of sleeve-bearing, DC axial cooling fans with lifetimes equivalent to its **ball bearing** fans is now available from the Electronic Device Group of Mitsubishi Electronics America, Inc.

The...

...the Mitsubishi sleeve bearing fans provide the same airflow performance and low noise as its **ball bearing** fans. The MMS-O6E measures 60mm (2.36 inch) by 60mm by 1 **Smm** (0.5 inch) thick, and is offered in three speeds. The high-speed version produces...

19910801

15/5,K/9 (Item 1 from file: 20)  
DIALOG(R)File 20:Dialog Global Reporter  
(c) 2004 The Dialog Corp. All rts. reserv.

07795115

**SKF expected to deliver strong results (Starkt resultat vantast i SKF)**  
DAGENS INDUSTRI  
October 18, 1999  
JOURNAL CODE: WDIN LANGUAGE: Swedish RECORD TYPE: ABSTRACT  
WORD COUNT: 124

The Swedish **ball bearing** manufacturer SKF is expected to deliver pre-tax profits of SKr1bn in the first nine months of 1999, according to a forecast average of 13 analysts, compiled by **SME** (Six Market Estimates). The analysts are predicting that SKF generated pre-tax profits of SKr384m in the third quarter. Capital gains of SKr133m from the sales of SKF's head office in Gothenburg are included in the above figure.

Sune Carlsson, managing director of SKF, said that the company is now increasing its production pace which was 6 per cent below demand in the first half of 1999 as a measure to **cut** stock levels. Mr Carlsson said that the time had come to increase production as demand was believed to be going up.

Abstracted from Dagens Industri in Swedish. Copyright 1999 Financial Times Information, Dow Jones, Dialog. Source: World Reporter (Trade Mark)

COMPANY NAMES: SKF AB  
DESCRIPTORS: Interim Results; Results; Company News; Forecasts & Predictions; General News  
COUNTRY NAMES/CODES: Sweden (SE)  
REGIONS: Europe; European Union; Scandinavia; Western Europe  
SIC CODES/DESCRIPTIONS: 332991 (Ball & **Roller Bearing** Mfg)

The Swedish **ball bearing** manufacturer SKF is expected to deliver pre-tax profits of SKr1bn in the first nine months of 1999, according to a forecast average of 13 analysts, compiled by **SME** (Six Market Estimates). The analysts are predicting that SKF generated pre-tax profits of SKr384m ...

...6 per cent below demand in the first half of 1999 as a measure to **cut** stock levels. Mr Carlsson said that the time had come to increase

production as demand...

SIC CODES/DESCRIPTIONS: 332991 (Ball & Roller Bearing Mfg)  
19991018

15/5,K/45 (Item 1 from file: 621)  
DIALOG(R)File 621:Gale Group New Prod.Annou.(R)  
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01245890 Supplier Number: 44457306 (THIS IS THE FULLTEXT)  
**NEW HAMPSHIRE BALL BEARINGS, INC. ADDS ROLLER BEARINGS TO PRODUCT LINE**

News Release, pN/A

Feb 22, 1994

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 453

TEXT:

New Hampshire Ball Bearings, Inc.

Route 202 South

Peterborough, NH 03458-0805

Tel. 603/924-4100

FAX 603/924-9302

New Hampshire Bail Bearings, Inc.

Gary Yomantas, President

(818)993-4100

Capital Relations, Inc.

Phyllis Grabot or

Bonnie Quintanilla

(805)494-0830

**NEW HAMPSHIRE BALL BEARINGS, INC.**

**ADDS ROLLER BEARINGS TO PRODUCT LINE**

PETERBOROUGH, NH, February 22,1994--New Hampshire Ball Bearings, Inc. (NHBB), a major supplier of precision bearings and bearing products, has completed its first shipment of its new roller bearing product line. The completely customized roller bearing shipment was developed in direct response to requests for the product from NHBB's customers.

"We heard that some of our bearing customers were looking for a one-stop-shop for all of their bearing products," said Gary Yomantas, NHBB's President and COOy "For us to fit the bill we needed to add high quality, precision roller bearings to our product mix. We took a look at the talent in our organization and said 'let's do it.' And, less than a year later, we were shipping our first roller bearing lot."

The sizes of the high-precision cylindrical roller bearings in the initial lot range from 2" outside diameter (O.D.) to 10" O.D., with the rollers themselves ranging from **Smm** to 20mm. In addition, NHBB's **roller bearing**

(more)

**Roller Bearings**

2-2-2

professionals can also manufacture bearings up to 12" O.D., rollers from -3.5mm to 25mm, that meet RBEC-1, 3 and 5 specifications.

Typical materials used in the manufacture include M50, 52100 and BG42.

Applications

The package of eight custom bearings, comprising the first shipment lot, are for use exclusively in gas turbine mainshaft and gearbox applications. NHBB's state-of-the-art manufacturing facility in Peterborough N.H, and its professional design team, are already

completing orders for additional applications, including hydraulic pumps, helicopter transmissions, airframe-mounted gearboxes, engine starters, generators and auxiliary power units. NHBB is also expanding its roller bearing market to reach linear motion applications and other high precision non- aerospace applications.

"Although this listing represents an impressive cross section of the roller bearings NHBB is able to produce, it by no means reflects the limits of our future order capabilities," said Yomantas. "Our sales and customer service teams have been rigorously trained in roller bearing technology and applications. We listen to all roller-related requests and match the application with the appropriate design engineering group. We will be hard pressed to say 'we can't do it'."

(more)

Roller Bearings

3-3-3

New Hampshire Ball Bearings

With manufacturing facilities in Peterborough and Laconia, New Hampshire, and Chatsworth, Calif., NHBB produces specialty and custom precision rod ends, sphericals, composite components, and miniature and instrument bearings, as well as ball and cylindrical roller bearings. NHBB is a member of the Minebea Group of companies.

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PUBLISHER NAME: Various

COMPANY NAMES: \*New Hampshire Ball Brg

EVENT NAMES: \*330 (Product information)

GEOGRAPHIC NAMES: \*1U1NH (New Hampshire); 1USA (United States)

PRODUCT NAMES: \*3562000 (Ball & Roller Bearings)

INDUSTRY NAMES: BUS (Business, General); BUSN (Any type of business)

NAICS CODES: 332991 (Ball and Roller Bearing Manufacturing)

... 2" outside diameter (O.D.) to  
10" O.D., with the rollers themselves ranging from **Smm** to 20mm. In  
addition, NHBB's **roller bearing**

(more)

**Roller Bearings**

2-2-2

professionals can also manufacture bearings up to 12" O.D., rollers  
from...

15/5,K/46 (Item 2 from file: 621)

DIALOG(R) File 621:Gale Group New Prod.Annou.(R)

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01229824 Supplier Number: 44062262 (THIS IS THE FULLTEXT)

**Aluminum Bearing Retainer**

News Release, pN/A

August 31, 1993

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 194

TEXT:

MICRO SLIDES

Division Of Anorad Corporation

100 Oser Avenue

Hauppauge, New York 11788

Tel. (516) 231-2022 Fax. (516) 231-2064

Aug 31, 1993



## Aluminum Bearing Retainer

Micro slides Division introduces its new AR Series, aluminum crossed roller bearing retainer. Capable of replacing all other standard metal retainers, the aluminum retainer captures the bearings on a standard roller pitch. Different from the typical thick retainers that do not capture the rollers, the thick aluminum retainer is suitable for applications required a rigid retainer for recentralization. Additionally, the aluminum construction is non-corrosive and easy to apply to all standard 3mm, 6mm, and 9mm crossed roller sets or slide assemblies. Standard bearing centers are:

RW118	Series (3mm):	.192"	( 3mm )
RW236	Series (6mm):	.330"	( 8mm )
RW354	Series (9mm):	.551"	(14mm)

The aluminum retainers are available with standard bearing steel crossed roller sets and with Micro Slides new stainless steel crossed roller sets. The AR Series retainer can also accommodate the P.A.C.T., Patented Anti- Creep Technology. For technical support, please contact the Sales and Engineering Department at: Micro Slides Division of Anorad Corporation, 100 Oser Avenue, Hauppauge, NY, 11788, 516-231-2022, 516-231-2064- Fax.

Marketing Contact: Vivian Ojeda

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PUBLISHER NAME: Various

COMPANY NAMES: \*Micro Slides Div.

EVENT NAMES: \*330 (Product information)

GEOGRAPHIC NAMES: \*1U2NY (New York)

PRODUCT NAMES: 3562900 (Ball & Roller Bearing Parts)

INDUSTRY NAMES: BUS (Business, General); BUSN (Any type of business)

NAICS CODES: 332991 (Ball and Roller Bearing Manufacturing)

TRADE NAMES: AR Series; RW118 Series; RW236 Series; RW354 Series

... 31, 1993

## Aluminum Bearing Retainer

Micro slides Division introduces its new AR Series, aluminum crossed roller bearing retainer. Capable of replacing all other standard metal retainers, the aluminum retainer captures the bearings...

...9mm

crossed roller sets or slide assemblies. Standard bearing centers are:

RW118	Series (3mm):	.192"	( 3mm )
RW236	Series (6mm):	.330"	( 8mm )
RW354	Series (9mm):	.551"	(14mm)

The aluminum retainers are available...

PRODUCT NAMES: 3562900 (Ball & Roller Bearing Parts)

NAICS CODES: 332991 (Ball and Roller Bearing Manufacturing)

19930831